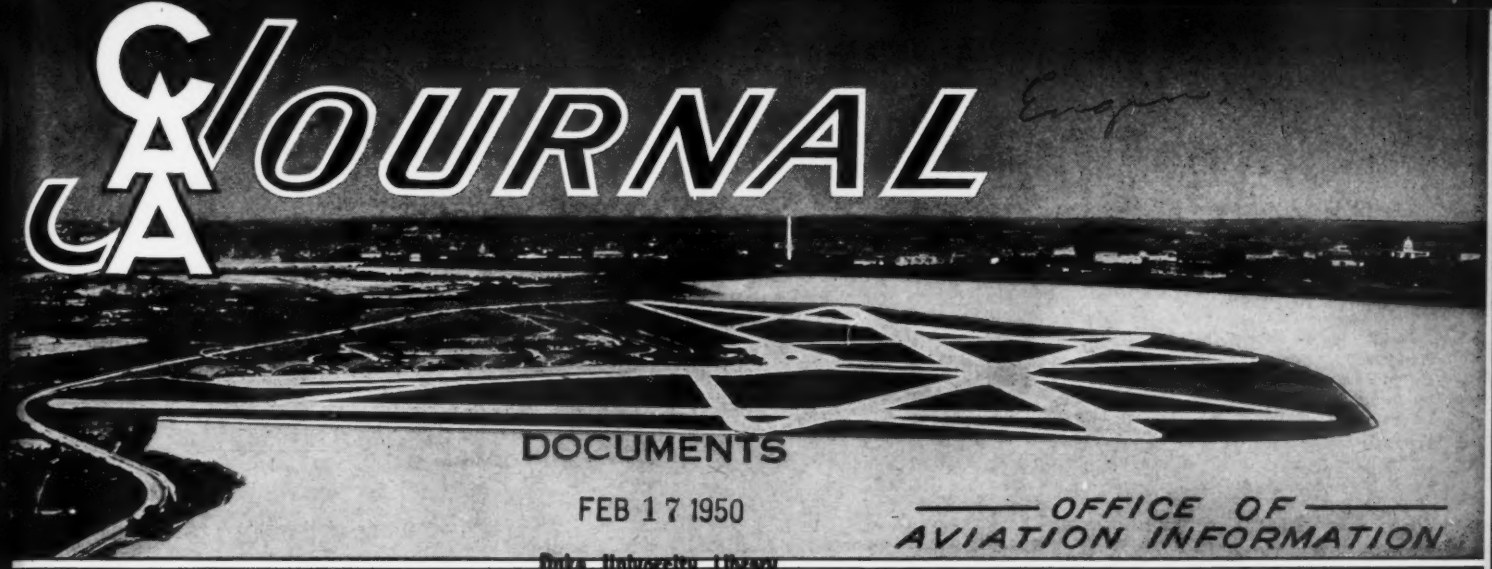
CAA JOURNAL



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Upward Trend is Outlook for Aircraft Manufacturing

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A continuation of the upward trend in total aircraft business is the outlook for 1950, according to a joint study prepared for the Department of Commerce by the Civil Aeronautics Administration and the Office of Domestic Commerce. Supporting this forecast, the study estimates that total sales of airframe, engine, and propeller manufacturers in 1950 will equal approximately $1,800 million, and that an estimated 36 to 41 million pounds of airframe weight will be produced. These figures compare with 1949 estimates of $1,700 million and 34.6 million pounds, respectively.

The study's estimate for 1950 then continued:

Military Procurement to Dominate.—"Military procurement will again dominate the aircraft picture. Of the estimated total airframe weight to be produced in 1950, about 85 percent will be military, and 15 percent will consist of civil transport and personal plane production.

"Estimates of military procurement for 1950 take into consideration the President's decision to impound funds approved by the Congress for the purchase of certain aircraft. Estimates of military procurement for calendar 1950 are of course predicated upon the assumption that the Secretary of Defense will not initiate additional economy measures during 1950 which would further affect military procurement of aircraft.

"It is estimated that 145 civil transports, weighing approximately 3.2 million airframe pounds and 3,000 personal planes weighing 2.4 million airframe pounds will be produced in 1950.

"The President's Air Policy Commission in its report, entitled 'Survival in the Air Age,' suggested 30 million–40 million airframe pounds of military peacetime procurement as necessary for assuring an adequate expansibility of the aircraft industry in time of mobilization. Military procurement for 1950, estimated at 30 million–35 million airframe pounds approximates the Commission's suggested procurement level. This, of itself, is not completely indicative of satisfactory progress toward creation of an expansible aircraft industry. It must be recognized that expansibility of the aircraft industry is dependent not only upon the size of the military procurement program, but also upon the composition of the program and the degree to which procurement is distributed within the aircraft industry."

Estimated Figures for 1949.—During 1949, which was drawing to its close when the report was made public, the study stated that total deliveries of military and civil aircraft in 1949, measured in terms of airframe weight, are estimated at 34.6 million pounds. In 1948 this figure was 34.5 million pounds and 29.2 million pounds in 1947.

The study's report on 1949 continued as follows:

"Dollar value of all shipments by airframe, engine, and propeller companies in 1949 is estimated at $1,700 million. In 1948, estimated dollar value was $1,450 million.

"Total employment in the aircraft industry, including airframe, engine, and propeller segments, approx-

(*Continued on page 22*)

Pilots Cautioned by CAA on Use of Antihistaminic Drugs

Pilots using antihistaminic drugs in the treatment of colds should not operate an airplane unless they are certain that the drug causes no side reactions, such as drowsiness and dizziness, in them as individuals, the Civil Aeronautics Administration's Medical Division recently cautioned.

The U. S. Food and Drug Administration has ruled that some of these drugs are safe when taken in recommended dosages, and they are now on general sale under various trade names. In a few susceptible individuals, however, they may cause side reactions. It would be dangerous for such individuals to operate aircraft while taking the preparations.

The CAA Medical Division recently cautioned against operating an airplane while taking Dramamine, an antihistaminic drug used as an airsickness remedy. Some of the newer antihistamines, in the dosages recommended for cold treatment, are claimed to be less likely than Dramamine to cause side reactions. Nevertheless, no pilot should overlook the possibility that he might be particularly susceptible.

Board Announces Review of CAR On Airworthiness

The Civil Aeronautics Board last month implemented its policy statement of October 6, 1949, which announced the adoption of a procedure for the annual review of airworthiness parts of the Civil Air Regulations. This was done by issuance of Civil Air Regulations Draft Release No. 50–1 on January 13, 1950.

This release requests all interested parties to submit such comments and specific proposals for deletions, additions, or amendments to any of the airworthiness parts of the regulations as they desire, in duplicate, to the Bureau of Safety Regulation, Civil Aeronautics Board, Washington 25, D. C.

The Board stated that, in view of the necessity of carrying out the annual review according to a definite schedule, only those comments or proposals which are received by April 1, 1950, could be assured proper consideration within the framework of the 1950 annual review. Comments and proposals received after that date might have to be deferred for consideration to the subsequent annual review in 1951.

In order to facilitate the submittal of comments and proposals, the status of all the airworthiness parts of the Civil Air Regulations as well as the important issues involving these regulations were referred to in a statement accompanying the release. The text of the statement follows:

"General.—The Board, on September 14, 1948, adopted Special Civil Air Regulation SR–327 which redesignated former Parts 01, 02, 03, 04a, 04b, 06, and 09 as Parts 1, 2, 3, 4a, 4b, 6, and 9, respectively. All references to these airworthiness parts are therefore made according to the new designation. In order to comply with Federal Register Regulations, all parts of the Civil Air Regulations, including those pertaining to airworthiness, were published in a recodified form (new system of numbering the sections) in the July 16, 1949, issue of the Federal Register. This publication incorporated all of the amendments adopted by the Board prior to that date. In order to obtain a wider distribution of the recodified regulations, the Board has been reprinting the individual parts as published in the Federal Register. It is intended that all

(*Continued on page 17*)

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Promotion of Civil Aviation by CAA Is Theme of Administrator's Address

The CAA's role in fostering and promoting civil aviation was the major theme of a recent address by D. W. Rentzel, Administrator of Civil Aeronautics. The address was given on January 12 before a meeting of the Air Transportation Institute of American University in Washington, D. C.

In his opening remarks, Mr. Rentzel said that he considered the topic of his address, "The Role of the Government in Promoting Civil Aviation" as most appropriate, because no other agency of the government is concerned so directly with the promotion of civil aviation as is the CAA.

Mr. Rentzel then briefly discussed the activities of the National Advisory Committee for Aeronautics, the Civil Aeronautics Board and the military in the light of promoting civil aviation.

Focusing on his own organization, Mr. Rentzel said that the best way to tell what the CAA has done in promoting civil aviation would be to describe a few examples.

"The largest contributions we make", Mr. Rentzel said, "come from the two largest divisions of the Administration, Federal Airways and Aviation Safety."

Federal Airways System.—Pointing out that the duties of Federal Airways and Aviation Safety were by far too varied to mention in detail, Mr. Rentzel then continued: "Airways has built, and it operates and maintains the finest system of aerial roadways in the world. Our system now measures approximately 60,000 miles, and it grows yearly as we get more and better air transportation domestically and to and from foreign lands. An airway is an invisible path through the air, marked as clearly for the airman as the roadway is marked for you in your car. Radio, radar, lights, fast communications, these are the aids given the airman, and it is difficult, if not impossible, to estimate the value of these aids which your Government has provided for those who fly. Airways today is an operating division of CAA, but it is the result of 25 years of promotion and development.

"I can say quite literally," Mr. Rentzel added, "that we would not have air transportation as we know it today if it were not for the Federal Airways.

"CAA is moving ahead rapidly with a program of air navigation and traffic control aids which will permit an ever-higher level of 'on-time' schedule completions.

"All airline users, and particularly businessmen, want reasonable assurance when they plan an air trip that they will be able to take off on time, and land at their intended destination just about as scheduled. In the past, weather has been an important obstacle, but we believe the landing aids in our program already are well on the way toward licking this aspect of the problem. The instrument landing system now installed at 96 terminals has made possible safe landings with cloud ceilings of 200 feet and visibility of one-half mile, against 400 or 500 feet minimum ceiling and 1 mile minimum visibility without the aid of this radio pathway to the ground.

"As the volume of air travel mounts, the possibility of congestion in the air at terminals, and on some routes between terminals, offers the greater threat of delay. To meet this difficulty, the CAA, in cooperation with the Air Force, Army and Navy, is developing, testing and installing a whole battery of new devices. Some of them to be installed during the next year or two are:

New Devices to be Installed.—"Distance-measuring equipment in conjunction with the VHF omnidirectional range, so that the pilot will have a continuous indication of his distance from the station, and can report to the traffic controllers his exact position at any time, without reference to check points; precision approach radar, which supplements the instrument landing system and permits the controller to guide to a landing planes equipped only with simple two-way radio; an automatic direction finder, which throws a line through the particular 'pip' on the controller's radar screen that identifies the plane transmitting; and a mechanical interlock, which connects traffic posting boards in air route centers and airport towers, flashing red and green lights so that airplanes moving in and out of local control zones will be assigned quickly to vacant altitudes.

"Nation-wide, it will cost approximately $255,000,000 to purchase and install these and related aids, which we hope to have in full operation by 1953. Thus far, Congress has appropriated $65,000,000 for this transition program, which will meet the civil and military air traffic needs of the Nation until perhaps 1963. By then we will need a fully automatic control system, and our technical experts already are doing some of the basic planning essential if we are to achieve this long-range goal."

Aviation Safety Activities.—Mr. Rentzel then stated that Aviation Safety, like Federal Airways, is also an operating division, "but its history rests also on development, much of it in the human field. Some supervision of airmen and some inspection of aircraft to promote safety were the reasons for the birth of the CAA's predecessor organization back in 1926. The same needs exist today, though the greater size of the industry demands different methods.

"To avoid burdensome delays, on the one hand, or the creation of an army of agents on the other, we have been delegating much of the inspection responsibility to qualified persons in the industry. Now, the aircraft owner can get his plane checked by a conveniently located designee of the CAA, instead of waiting for a CAA employe to reach his airport. Similarly, he can take a test for a pilot certificate administered by a designated examiner.

"Unfortunately, regulation too often assumes a dominant place in Government action. We fight against it all the time, and I know that my predecessors in the Administrator's office did the same. It would be wonderful if we never had to regulate. It would be comfortable if all we had to do was promote and educate. We try honestly all the time to work with the industry and with airmen in man-to-man relationship, and we make progress daily."

By way of an illustration, Mr Rentzel cited the following example:

Jet-Powered Air Transports.—"In a few short years, perhaps sooner, we will be faced with jet-powered air transports. They are so different in their operating characteristics, the limitations under which they must operate, and the problems they pose in air traffic control, that virtually every part of the CAA will be concerned in revising our rules, methods and procedures. To make ready for them, we could establish arbitrary requirements and sit back and watch to see what changes might safely be made as time went on and experience accumulated. Instead, we actually are engaged in promoting this major advancement in aviation.

"One of our most able engineer-pilots spent 10 months in England at the Empire Jet School. Five of our test pilots went through Air Force jet training. A CAA committee of engineers has visited and conferred with all the United States manufacturers of transports on possible jet versions, and we have been in continual touch with a Canadian factory which has a jet transport flying and which probably will present it to us soon for certification. Recently, we gathered all CAA persons concerned with this problem into a

(*Continued on page 20*)

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DEPARTMENT OF COMMERCE
Charles Sawyer, *Secretary*

Civil Aeronautics Administration
D. W. Rentzel, *Administrator*
Ben Stern, *Director*
Office of Aviation Information

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CAA and CAB Releases

Copies of CAA releases may be obtained from the CAA Office of Aviation Information. CAB releases are obtainable from the Public Information Section of the Board. Both offices are located in the Department of Commerce Building, Washington 25, D. C.

Administration

Joint Release on 1949 Aircraft Production—(December 29).

Airlines had Biggest Year in 1949, CAA Head Reports—(January 2).

CAA Announces Fourth Annual Report of the Federal Airport Act—(January 6).

Book on Better Airport Turf Issued by CAA—(January 9).

New CAA Circuit to Aid Weather Forecasts—(January 13).

Airports Advisory Committee Holds Meeting in Los Angeles—(January 23).

Pilots Cautioned on Antihistamine Drugs—(January 26).

Address by D. W. Rentzel, Administrator of Civil Aeronautics, entitled "The Role of the Government in Promoting Civil Aviation," given before the Air Transportation Institute of American University, Washington, D. C., (January 12).

Address by Phillips Moore, Director, Office of Airports, entitled "Objectives and Goals of Airports Management Consulting Service," given at the Conference of the Airports Advisory Committee of the Civil Aeronautics Administration, Los Angeles, Calif., (January 23–27).

Board

CAB Authorizes Continental to serve four additional points in New Mexico—(CAB 49–104) December 28, 1949.

Public hearing set for TWA accident at Chicago, Ill.—(CAB 49–105) December 30, 1949.

Financial Statistics for the Third Quarter of 1949—(CAB 50–1) January 12, 1950.

United Air Lines Proposed Reduced-fare Tariff Suspended by Civil Aeronautics Board—(CAB 50–2) January 13, 1950.

Civil Aeronautics Board Issues Statement on Use of Small Aircraft in Scheduled Airline Operations—(CAB 50–3) January 20, 1950.

Mileage and Traffic Statistics for October 1949—(CAB 50–4) January 23, 1950.

Income Gains Shown By 16 Domestic Lines

The Civil Aeronautics Board announced last month that for the third quarter of 1949 reports filed by the 16 domestic trunk airlines indicate a net income from operations of $13,905,047 as compared with net operating income of $2,357,817 for the same period in 1948.

Additional figures covering operating revenues and expenses for the third quarter ending Sept. 30, 1949 and Sept. 30, 1948, follow:

Quarterly Figures Compared

	3 months ending—	
	Sept. 30, 1949	Sept. 30, 1948
Revenue miles flown	86, 711, 201	86, 560, 388
Operating revenue:		
Passenger	$104, 853, 431	$93, 679, 249
Mail	10, 723, 872	9, 265, 505
Express	1, 986, 844	2, 282, 400
Freight	4, 407, 845	3, 601, 721
All other	2, 491, 677	1, 942, 573
Total	124, 463, 669	110, 771, 448
Operating expenses	110, 558, 622	108, 413, 631
Net operating income	13, 905, 047	2, 357, 817

For the year ending September 30, 1949, the net operating income for the 16 domestic trunk airlines was $34,825,885 as compared with the net operating loss of $−18,690,775 for the year ending September 30, 1948. Additional figures covering operating revenues and expenses for the years ending September 30, 1949, and September 30, 1948, follow:

Fiscal Year Figures Compared

	12 months ending—	
	Sept. 30, 1949	Sept. 30, 1948
Revenue miles flown	322, 402, 217	314, 200, 724
Operating revenue:		
Passenger	$375, 018, 915	$324, 212, 226
Mail	55, 466, 570	31, 948, 523
Express	9, 135, 306	9, 695, 957
Freight	17, 115, 615	12, 700, 140
All other	8, 521, 213	6, 730, 565
Total	465, 257, 619	385, 287, 411
Operating expenses	430, 431, 734	403, 978, 186
Net operating income	34, 825, 885	−18, 690, 775

Airways Operations Discussed In Training Bulletin Series

The Civil Aeronautics Administration has published a series of bulletins which provide factual information concerning the latest developments in air navigation aids and air traffic control and communications equipment.

Each bulletin includes a group of study questions. The series is on sale by the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Subject of each and sale prices are:

Airways Operations Training Bulletins

Bulletin No.	Title	Price
1	Instrument Landing System	$0.15
2	Location Markers and Homing Facilities	.10
3	Visual-Aural Ranges and Omniranges	.15
4	Distance Measuring Equipment and Offset Course Computer	.15
5	SECO (Sequential Control)	.10
6	Radar Fundamentals and Surveillance, Precision and Route Radar	.25
7	LORAN	.10
8	MEDIS	.15

CAA Releases Figures On Airways Facilities

The Civil Aeronautics Administration has released the following figures on facilities maintained and operated by the Office of Federal Airways, as of December 31, 1949:

Civil Airways.—Controlled civil airways—61,392 miles; non-controlled civil airways—6,315 miles; oceanic routes—24,030 miles.

Landing Areas.—Intermediate fields—174; jointly operated fields—79.

Lighting Aids.—Airways beacons (excluding those at landing areas)—1,803; neon approach light lanes—92; high intensity approach light lanes—10 (includes one AGA and eight Bartow installations).

Air Navigation Radio Aids.—Low/medium frequency ranges—378; very high frequency ranges—370 (includes 50 on test basis and 320 fully commissioned); low frequency omnidirectional ranges—1; nondirectional homing beacons—120; compass locators—145; fan markers—290; instrument landing systems—94 (includes two SCS–51 and one localizer only installations); precision approach radar—3; airport surveillance radar—3.

Communications Stations.—Interstate airways—464; overseas-foreign airways—15.

Traffic Control Facilities.—Airport traffic control towers—162; air route traffic control centers—30.

Teletype and Interphone Services.—Weather Reporting Circuits: circuit mileage, teletype services A, C, and O—71,121; circuit drops, teletype services A, C, and O—851. Traffic Control Circuits: circuit mileage, teletype service B—32,945; circuit drops, teletype service B—484; circuit mileage, interphone service F—57,588; circuit drops, interphone service F—3,195.

Civil Aircraft Industry Reports Drop in Shipments

Civil aircraft shipments in November totaled 158 planes, weighing 527,300 airframe pounds and valued at $16,680,000, according to a report issued jointly by the Civil Aeronautics Administration and the Bureau of the Census. These figures represent declines of 31 percent in number, 19 percent in weight, and 13 percent in dollar value below the previous month.

Shipments of personal aircraft dropped to 143 from 216 in October, while shipments of transport aircraft increased slightly, from 12 to 15.

While November's civil aircraft output was far below last year in terms of number and airframe weight, dollar value was up 66 percent or $6,600,000, due to larger shipments of heavier, more expensive airline transport planes.

Comparative figures for October and November 1949 as well as for November 1948 follow:

Civil Aircraft Shipments, November 1949

	1949		1948–November
	November	October	
Number (total)	158	228	317
Number by type:			
Personal	143	216	294
Transport	15	12	23
Number by type:			
1 and 2-place	37	49	99
3 to 5-place	106	167	195
Over 5-place	15	12	23
Airframe Weight (thousand pounds)	527.3	647.2	598.8
Personal	113.7	160.3	234.0
Transport	413.6	486.9	364.8
Value (thousand dollars)	$16,681	$19,162	$10,077
Complete aircraft	11,475	14,510	6,878
Parts	2,855	2,572	1,186
Other products	2,351	2,080	2,013

Civil Aviation Highlights

	1949	1948
Airports recorded with CAA, *Dec. 31*	6, 484	6, 414
By type: [1]		
Commercial	2, 585	2, 989
Municipal	2, 200	2, 050
CAA Intermediate	139	161
Military	353	398
All others	1, 207	816
Civil airports by class:		
Total	6, 131	6, 016
Class I and under	4, 054	4, 006
Class II	994	972
Class III	501	471
Class IV	368	361
Class V	135	131
Class VI and over	79	75
Total U. S. civil aircraft, *Dec. 31*	92, 622	95, 997
Scheduled air carrier aircraft, *Dec. 31*	1, 096	1, 061
Civil aircraft production, *November:*		
Total	158	317
1- and 2-place models	37	99
3-, 4- and 5-place models	106	195
Over 5-place models	15	23
Certificates approved, *November:*		
Student pilots	4, 064	3, 665
Private pilots	2, 322	4, 318
Commercial pilots	477	631
Airline transport pilots	109	73
Mechanics (original certificates)	520	749
Ground instructors (original certificates)	84	121
Flight instructor ratings	166	183
Instrument ratings	99	131
Control tower operators	105	108
Traffic control activity, *November:*		
Aircraft operations, CAA airport towers	1, 221, 703	1, 222, 535
Fix postings, CAA airway centers	760, 314	927, 787
Instrument approaches	15, 731	22, 050
Airport Operations		
Washington National, *December:*		
Scheduled air carrier:		
Passengers departing	47, 901	49, 914
Passengers arriving	43, 809	44, 738
Aircraft arrivals and departures	8, 845	9, 884
Other aircraft arrivals and departures	2, 035	3, 539
San Francisco Municipal, *November:*		
Scheduled air carrier:		
Passengers departing	[2]	35, 723
Passengers arriving	[2]	36, 382
Aircraft arrivals and departures	6, 702	6, 313
Other aircraft arrivals and departures	3, 475	4, 341
Oakland Municipal, *November:*		
Scheduled air carrier:		
Passengers departing	3, 112	5, 079
Passengers arriving	3, 240	4, 535
Aircraft arrivals and departures	4, 101	3, 974
Other aircraft arrivals and departures	10, 940	18, 439
Miami International, *November:*		
Scheduled air carrier:		
Passengers departing	32, 023	29, 677
Passengers arriving	34, 280	32, 003
Aircraft arrivals and departures	7, 263	6, 908
Other aircraft arrivals and departures	8, 345	9, 923
Los Angeles International, *November:*		
Scheduled air carrier:		
Passengers departing	40, 823	[2]
Passengers arriving	43, 314	[2]
Aircraft arrivals and departures	7, 812	7, 724
Other aircraft arrivals and departures	4, 865	6, 715

[1] Airport type definitions: Commercial—Public use and public services, privately owned and operated. Municipal—Public use and public services, municipally owned and/or operated. CAA Intermediate—Public emergency use, no services, CAA operated. Military—Public restricted, military operated. All others—(*a*) Public emergency use only, no public services, privately owned for personal use; (*b*) Public emergency use only, no public services, Government-owned Forest Service, etc.

[2] Not available.

Data Given on Small Airports

Many problems confronting communities or individuals who want to build a small airport are answered in a Civil Aeronautics Administration publication entitled "Small Airports," which is on sale at 15 cents a copy by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

The booklet is divided into five sections: planning, design, construction, operation, and finance and maintenance, and discusses many unexpected pitfalls which often are not foreseen by the inexperienced.

Official Actions . . . Civil Aeronautics Board

Regulations

SR–340—Effective January 1, 1950

Extends until July 31, 1950, special civil air regulation SR–332, which authorized the issuance of a limited mechanic certificate with propeller or appliance rating to an individual employed by a manufacturer or repair station. SR–332 expired December 31, 1949.

SR–341—Effective January 1, 1950

Extends the effective date of SR–323 which provides special operating rules for flights of scheduled air-carrier aircraft in long-distance operations. The text of SR–341 is as follows:

Flights of scheduled air carriers while at altitudes in excess of 12,500 feet above sea level east of longitude 100° W. and 14,500 feet above sea level west of longitude 100° W. shall comply with the applicable provisions of the Civil Air Regulations except as follows:

(a) Such flights need not comply with the requirements of § 60.45 Right-side traffic, § 61.252 Deviation from route, or any sections of Parts 40 and 61 concerning civil airways.

(b) Such flights need not comply with the requirements of § 60.43 Air traffic clearance, § 60.21 Adherence to air traffic clearances, § 60.47 Radio communications, and § 61.171 (c) Weather reports, except to the extent which the Administrator may prescribe.

(c) Each pilot in command engaged in these operations shall be qualified for the route, if he is qualified for operations over any regular authorized route for the air carrier involved between the regular terminals for such operation.

(d) Each dispatcher who dispatches aircraft on flights authorized by this regulation shall be qualified under § 61.154 of the Civil Air Regulations for operation over an authorized route for the air carrier involved between the regular terminals of such operations: *Provided*, That when he is qualified only on a portion of such route he may dispatch aircraft only after coordinating the dispatch with dispatchers who are qualified for the other portions of the route between the points to be served.

This regulation supersedes Special Civil Air Regulations SR–331, and shall terminate June 30, 1950, unless sooner superseded or rescinded.

Amdt. 6–4—Effective February 6, 1950

Service reports and the results of various studies conducted during the past few years indicate that the standards in the Civil Air Regulations for safety belts are not high enough to afford the proper protection for occupants of aircraft. It has also been learned that the belts now in general use are subject to service deterioration which further reduces the strength factor. The Board, therefore, is amending the requirements for safety belts to establish higher safety standards for this equipment. (For this purpose the Board is amending simultaneously Parts 3, 4a, 4b, 6, 15, 41, 42, 43, and 61.) The regulations are also being amended, in line with the policy of the Federal agencies to delegate maximum responsibility consistent with air safety to the industry, to permit safety belts to be approved on the basis of certified compliance with appropriately published specifications (Technical Standard Orders), as is now provided in §§ 3.31; 4a.31, 4b.41, and 6.6 of the Civil Air Regulations, instead of the type certification procedure currently required in Part 15.

It is our understanding that the Technical Standard Orders for safety belts will adopt specifications based upon those approved February 9, 1948, by the National Aircraft Standards Committee as NAS 802, except for the minimum strength values. The minimum strength values to be established in the Technical Standard Orders, while less than the values stated in NAS 802, are higher than existing requirements and are more consistent with the crash load factor specified in the other parts of the regulations than the values stated in NAS 802.

The regulations hereby adopted provide that safety belts installed on airplanes manufactured on or after January 1, 1951, shall be manufactured under a Technical Standard Order.

Interested persons have been afforded an opportunity to participate in the making of this amendment and due consideration has been given to all relevant matter presented.

In consideration of the foregoing the Civil Aeronautics Board hereby amends Part 6 effective February 6, 1950:

1. By amending § 6.25 (a) (2) to read as follows:

(2) Safety belt loads. On all rotorcraft manufactured on or after January 1, 1951, structures, including seats, berths, and their attachments, which carry safety belt loads shall be capable of withstanding the following ultimate accelerations assumed to act upon the occupants of the belt.

Upward	1. 5g (downward 4.0g)
Forward	4. 0g
Sideward	2. 0g

2. By amending § 6.52 (j) to read as follows:

(j) Approved safety belts for all occupants (see § 6.54).

3. By adding a new § 6.54 to read as follows:

6.54 Safety belts. Rotorcraft manufactured on or after January 1, 1951, shall be equipped with safety belts approved in accordance with § 6.6. In no case shall the rated strength of the safety belt be less than that corresponding with the ultimate load factors specified in § 6.25 (a) (2), taking due account of the dimensional characteristics of the safety belt installaton for the specific seat or berth arrangement. Safety belts shall be attached so that no part of the anchorage will fail at a load lower than that corresponding with the ultimate load factors specified in § 6.25 (a) (2).

Amdt. 45–1—Effective January 1, 1950

On October 4, 1949, the Board adopted an amendment of Part 45 which in general terms provided that commercial operators carrying passengers on a common carrier basis between points within a State in excess of an established frequency or regularity would have to comply with the same safety standards applicable to interstate operators of comparable regularity or frequency. The date established for full compliance with the amended requirements for operators entitled to "grandfather rights" under the provisions of the Part was January 1, 1950.

At the time the amendment was promulgated the number of operators involved and the scope of the compliance problem was not fully known. Since that time many of the operators affected by the rule have expressed their desire to comply with the safety standards so established, but have indicated that the time allowed for compliance is insufficient for the obtaining of the necessary communications equipment and the establishment of an appropriate ground organization. The Administrator has also advised us that, in view of the number of operators involved, his staff would not be able to complete the certification process by the established date. It has, therefore, been recommended that the Board extend the date for compliance to April 1, 1950, for operators entitled to "grandfather rights," in order to avoid suspension of operations through circumstances over which the operators have little control.

The same considerations do not apply to persons who are newly entering into the business, and it is not intended to extend the established compliance date for such persons.

We have also been advised that there is no significant number of commercial operators subject to the provisions of Part 45 engaged in carrying passengers in small aircraft on a common carrier basis between two points within a State with the established regularity or frequency. It has therefore been suggested that we confine the operaing requirement of § 45.4 (b) for meeting the standards of Part 61 to operations in aircraft of 12,500 pounds or more maximum certificated take-off weight. The amendment so provides.

Interested persons have been afforded an opportunity to participate in the making of this amendment, and due consideration has been given to all relevant matter presented. Since this amendment imposes no additional burden on any person, it may be made effective without prior notice.

In consideration of the foregoing, the Civil Aeronautics Board hereby amends Part 45 of the Civil Air Regulations (last printed November 15, 1949) effective January 1, 1950:

1. By amending § 45.2 to read as follows:

45.2 Certificate required.

(a) No person subject to the provisions of this part shall, except as provided below, engage in air commerce using aircraft of 12,500 pounds or more maximum certificated take-off weight until he has obtained from the Administrator a commercial operator certificate.

(1) Any such person whose operations are subject to the safety standards of Parts 40 and 61 in accordance with the provisions of §§ 45.3 and 45.4 (b) may engage in operations subject to the provisions of this part without a commercial operator certificate or compliance with the requirements of § 45.4 (b) until such time as the Administrator shall pass on his application for such certificate, but in no case later than April 1, 1950, if (1) he was engaged in such operations on March 23, 1949, and (2) either had an air carrier operating certificate issued under Part 42, or had made application, no later than June 1, 1949, for a commercial operator certificate issued under this part.

(2) No person holding an air carrier operating certificate shall be required to obtain or be eligible for any commercial operator certificate unless he holds only an air carrier operating certificate issued pursuant to Part 42 and carries or intends to carry passengers for compensation or hire as a common carrier between any two points within a State with the frequency set forth in § 45.3 (a).

2. By amending § 45.4 (b) to read as follows:

45.4 Operating rules. * * *

(b) Persons subject to the provisions of this part who conduct common carrier operations subject hereto in aircraft of 12,500 pounds or more maximum certificated take-off weight carrying passengers between points entirely within a State with the frequency described in § 45.3 (a) shall, in the conduct of all passenger operations between such points, comply with the requirements of Part 61, as heretofore or hereafter amended, except §§ 61.1 and 61.2, or with such other operating requirements as the Administrator finds will provide an appropriate level of safety for the operation.

Amdt. 50–2—Effective January 12, 1950

Section 50.34 as amended, effective October 1, 1949, requires the holder of an airman agency certificate to obtain the written approval of the Administrator before changing the location of the school. It is also provided that requests for approval of such change shall be mailed to the Administrator of Civil Aeronautics, attention Airman Division, Washington 25, D. C. We have been advised that the Administrator would prefer such requests to be made to the appropriate regional offices or local agents of the Administrator. The current provision, it is said, causes an unnecessary delay in the consideration and granting of requests for changes in location. Therefore, this amendment deletes the requirement that requests shall be made to the Airman Division in Washington. This procedural change would appear to be in the interest of the public.

Since this amendment is minor in nature and imposes no additional burden on any person, notice and public procedure hereon are unnecessary, and the amendment may be made effective without prior notice.

In consideration of the foregoing the Civil Aeronautics Board hereby amends Part 50 effective immediately:

By amending § 50.34 to read as follows:

50.34 Change of location. No change in a location of an approved airman agency shall be made without the prior written approval of the Administrator.

Airline Orders

E–3506 approves agreement between Braniff and Delta, relating to air conditioning of Delta's airplanes at Love Field (Nov. 1).

E–3507 approves agreement between Northeast and United, relating to catering services at Geiger Field Airport (Nov. 1).

E–3508 approves agreement between Delta and Chicago and Southern, relating to aircraft radio maintenance at Chicago (Nov. 1).

E–3509 approves agreement between Eastern and Capital, relating to interline agreement providing for commissions (Nov. 1).

E–3510 approves agreement between Chicago and Southern and the Peninsular & Occidental Steamship Co., relating to sea-air interline traffic (Nov. 1).

E–3511 approves agreements between TWA and Inland Air Lines, and Western Air Lines, relating to interline traffic agreements (Nov. 1).

E–3512 approves agreement between Delta and Southern Airways, relating to final testing and alignment of certain units of radio equipment (Nov. 1).

E–3513 grants Challenger Airlines Co. permission to serve Casper, Wyo., on route No. 74 through the use of Natrona County Airport, on or about November 1, 1949 (Nov. 1).

E–3514 grants Inland Air Lines permission to serve Casper, Wyo., on route No. 28, through the use of Natrona County Airport, on or about November 1, 1949 (Nov. 1).

E–3515 approves, subject to certain provisions, agreement between Mid-Continent Airlines and Smallwood Transfer & Storage Co., Package Delivery Co. (Iowa and South Dakota), and Walter McCoy, relating to pick-up and delivery service (Nov. 1).

E–3516 approves agreement between Western Air Lines and Tilton Cab Co., George Frost, and Double A Cab Co., relating to pick-up and delivery service (Nov. 1).

E–3517 approves agreement between United and Compagnie Nationale Air France, relating to interline traffic agreement (Nov. 1).

E–3518 approves agreement between United and Philippine Air Lines, relating to ground services and facilities (Nov. 1).

E–3519 approves agreement between American Overseas Airlines and Eastern, relating to responsibility for handling interline "in bond" shipments (Nov. 1).

E–3520 approves agreement between American and Den-Mor Cab Co., relating to transportation of passengers to, from, and between Hotel Kimball and Bradley Field, Conn. (Nov. 1).

E–3521 approves agreement between Pan American and Air India, relating to consolidated ground services and facilities at Karachi and New Delhi, India (Nov. 1).

E–3522 approves agreements between Chicago and Southern Air Lines and Capital and Braniff, relating to turnaround and servicing at Memphis by Chicago and Southern (Nov. 1).

E–3523 approves agreement between TWA and Delta, relating to joint ticket office (Nov. 1).

E–3524 grants Hawaiian Airlines permission to serve the Island of Kauai on its all-cargo flights over route No. 33, through use of Lihue Airport, on or about November 1, 1949 (Nov. 1).

E–3525 grants Donald C. McBain, chairman of council 57 of the Pilots of United Air Lines, leave to intervene in the matter of

(*Continued on page 19*)

Scheduled Passengers at WNA Show Large Increase in 1949

Washington National Airport handled 1,386,887 scheduled airline passengers during 1949, an increase of 200,000 passengers or 17 percent over the previous year. This was the fourth consecutive year that this airport, the only commercial airport owned by the United States Government and operated by the Civil Aeronautics Administration, has handled more than 1,000,000 passengers.

Aircraft arrivals and departures were at a high level with the total for the year coming to 165,033, an increase of 4 percent over 1948. The increase was solely attributable to greater air carrier aircraft activity with other groups—military, itinerant and local aircraft—either showing no change or slightly below the 1948 volume.

Comparable figures for the four postwar years are as follows:

Postwar Washington National Airport Traffic

	1949	1948	1947	1946
Airline passengers:				
Arrivals	686,644	589,880	547,564	588,515
Departures	700,243	596,796	593,381	641,965
Total	1,386,887	1,186,676	1,140,945	1,230,480
Aircraft arrivals and departures:				
Air carrier	121,136	113,765	105,224	105,167
Military	15,972	15,931	15,794	32,894
Itinerant	3,317	23,018	21,348	18,078
Local	4,608	5,406	17,324	24,551
Total	165,033	158,120	159,690	180,690

CAA Castered Landing Gear To Be Studied by Air Force

Engineering analysis of the DC–3 equipped with the cross-wind landing gear developed by the Civil Aeronautics Administration, will be made by the Air Force at its Wright Field Base, Dayton, Ohio, the CAA has announced.

The DC–3 will be completely fitted with instruments for measuring the loads and stresses encountered in landing, to determine whether weight can be saved in the design of landing gear through the use of this device. Operational limitations and characteristics also will be determined during this test.

The Air Force will make the results of its study available to the manufacturing industry, in the form of basic information which could be used in the design of aircraft of varying sizes.

The plane has been loaned for a period of 6 months.

CAB Requests Interested Parties to Submit Comments and Suggestions on Airworthiness

(*Continued from page 13*)

airworthiness parts will be available to the public at an early date in the reprinted form, and may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. It is realized that some interested persons in commenting on specific rules contained in the airworthiness parts may not have the recodified parts available for reference. In those cases, when reference is made to a specific section of the regulations, confusion will be avoided if it is clearly indicated that the old numbering system is being used. Unless otherwise stated, the Bureau of Safety Regulation will use the newly recodified numbers.

"Part 1.—The latest reprint of Part 1 of the Civil Air Regulations is dated May 10, 1949. It contains certain requirements pertaining to airworthiness certificates. Other rules affecting airworthiness certificates are contained in Part 43 of the Civil Air Regulations and in related publications issued by the Administrator.

"At the present time the Bureau of Safety Regulation is considering assembling within Part 1 all material pertaining to aircraft certificates. This would include the present substance of Part 1, the subject material now contained in Part 43, the rules pertaining to type and production certificates now contained in Part 2 of the Civil Air Regulations, and certain other related rules now contained in miscellaneous publications of the Administrator.

"Part 2.—The presently effective Part 2 of the Civil Air Regulations dealing with type and production certificates was last revised July 1, 1946, and since then has been subject only to slight amendment.

"Some of the material of Part 2 appears to be in need of further clarification and simplification. The substance of this part is expected to be transferred to Part 1. (See status of Part 1.)

"Part 3.—The latest revised issue of Part 3 of the Civil Air Regulations was made effective December 15, 1946, and since then has been subject only to relatively minor amendments.

"This part of the regulations contains airworthiness requirements for airplanes in the normal, utility, acrobatic, and restricted purpose categories.

"In the past few years, we have received an increasing number of comments to the effect that Part 3 is too restrictive with respect to certain types of airplanes which currently are required to be certificated thereunder. This is particularly true with respect to certification procedures. For example, it has been suggested that certain manufacturers should be permitted to conduct work connected with proof of compliance of the type aircraft without the usual control by the Administrator. Another proposal has been submitted with respect to airplanes which are intended for special industrial purposes, such as agricultural uses, aerial photography, banner-towing, etc. This proposal would allow the Administrator to waive any of the rules contained in Part 3 which were not essential to safety for the intended use of the airplane, and it would permit extremely simplified procedures for certification. As compensating factors, the Administrator would be required to set forth such operating restrictions as would safeguard other aircraft, and persons and property on the ground.

"In addition to the major issue of simplifying the certification procedures, Part 3 is in need of a reevaluation from the standpoint of appropriateness of specific detailed requirements. It has been suggested in the past that certain of the details could well be eliminated from the regulations without altering the established level of safety.

"Part 4.—Part 4b of the Civil Air Regulations which deals with airworthiness requirements for transport category airplanes was initially made effective November 9, 1945. Since then numerous amendments have been adopted.

"Experience with this part of the regulations indicated that in addition to possible substantive changes the part was in need of editorial revision. The Bureau therefore prepared a proposed revised draft of Part 4b which is in the process of being published in the Federal Register at this time. This draft differs somewhat from the presently effective Part 4b in arrangement of contents, in changes of language for the purpose of clarification, and in a few items of substance which are not considered to be of a controversial nature. The proposed draft is being published in the Federal Register in the form of a notice of proposed rule making. After consideration of any comments received thereon, the proposed revised Part 4b will be submitted to the Board at an early date for adoption.

"In view of the noncontroversial nature of the proposed draft of Part 4b, it is considered advisable, pending adoption by the Board, that it be used as a basis for comments and for specific proposed substantive changes during this annual review. Copies of the proposed draft as published in the Federal Register may be obtained free of charge by writing to the Bureau of Safety Regulation, Civil Aeronautics Board, Washington 25, D. C.

"Realizing that the airworthiness requirements for transport category airplanes were in need of a substantive reevaluation, in addition to the editorial revisions which were incorporated in the proposed new draft of Part 4b, the Bureau, in the spring of 1949, prepared Draft Release No. 49–1 (Discussion Material for a Proposed Part 4c). This draft release, although not widely circulated, was made available to the various aviation groups directly interested with the development of transport category airworthiness requirements. The purpose of the draft release was to bring forth the various major issues which have been presented so that these issues could be more conveniently studied. We expect to use Draft Release 49–1 as a basis for discussion within the scope of the annual review.

"Appendix I of Draft Release No. 49–1 contains the major issues with respect to transport category airworthiness regulations which appear to require resolution. One of the major issues presented therein is the matter of airworthiness requirements of transport airplanes equipped with turbo prop and turbo jet engines. Although events and developments of the past year may have altered to some extent the tentative conclusions reached in Draft Release No. 49–1 (this is particularly true with respect to performance requirements), nevertheless the issues remain and still require consideration. It is hoped that Draft Release No. 49–1 will stimulate such comment and suggestions from interested parties as will enable the Board to resolve some of the important questions by adopting appropriate changes in the transport category airworthiness regulations.

"An additional issue which the Bureau considers of timely importance is the matter of protection of occupants from the effects of minor crashes. In addition to a review of the present crash load factors, it appears wise to require on all future transport type airplanes an arrangement of seating whereby most, if not all, the passengers face to the rear. The Bureau is particularly anxious to receive comments from all interested parties on this subject.

"Part 5.—For some years past, Part 5 of the Civil Air Regulations has been reserved for glider air-

(*Continued on page 22*)

CAA Records Show 659 Helicopter and 3,143 Glider Pilots

Civil Aeronautics Administration records show that there were 659 helicopter pilots and 3,143 glider pilots certificated at the time of the most recent count—May 1, 1949. The three leading States in the helicopter pilot category were New York, California, and Illinois; California, New York, and Texas had the largest number of glider pilots.

The State-by-State distribution was as follows:

	Helicopter Pilots	Glider Pilots
Alabama	4	29
Arizona	4	28
Arkansas	3	37
California	72	383
Colorado	6	43
Connecticut	25	37
Delaware	0	5
District of Columbia	2	17
Florida	13	74
Georgia	11	32
Idaho	4	20
Illinois	44	161
Indiana	9	65
Iowa	8	59
Kansas	9	55
Kentucky	3	49
Louisiana	2	35
Maine	5	13
Maryland	8	26
Massachusetts	22	85
Michigan	17	103
Minnesota	5	84
Mississippi	5	22
Missouri	18	89
Montana	3	18
Nebraska	4	38
Nevada	1	7
New Hampshire	1	14
New Jersey	24	72
New Mexico	2	12
New York	108	279
North Carolina	14	55
North Dakota	4	16
Ohio	20	172
Oklahoma	20	92
Oregon	10	37
Pennsylvania	28	203
Rhode Island	7	11
South Carolina	2	25
South Dakota	2	24
Tennessee	4	46
Texas	40	231
Utah	2	30
Vermont	5	10
Virginia	9	28
Washington	36	63
West Virginia	2	26
Wisconsin	11	65
Wyoming	0	14
Outside Continental U. S.	1	4
Total	659	3,143

CAM Supplements and Aviation Safety Releases

Issued between December 15, 1949, and January 15, 1950, and obtainable from the Office of Aviation Information, Civil Aeronautics Administration, Department of Commerce, Washington 25, D. C.

CAM Supplements

CAM No.	Supplement No.	Title	Date
34	1	Requirements for Approved Flight Navigator Courses.	Dec. 21, 1949
61	4	Admission to Pilot Compartment	Dec. 14, 1949

Aviation Safety Releases

No.	Subject	Date
331	Index to Current Releases and Civil Aeronautics Manual Supplements	Dec. 15, 1949

Scheduled Air Carrier Operations

(Source: CAB Form 41)

International and Overseas: January–October 1949, 1948

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)		Revenue passenger load factor (percent)	
	January–October		January–October		January–October		January–October		January–October	
	1949	1948	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	1,851,060	1,949,931	69,629	57,206	55,456	41,198	87,716	75,358	63.22	54.67
American Overseas Airlines	6,624,810	6,304,451	78,036	64,344	155,972	147,124	256,454	238,377	60.82	61.72
Braniff Airways	1,335,920	419,409	10,858	2,718	23,287	4,683	61,568	20,738	37.82	22.58
Chicago & Southern Air Lines	1,453,870	593,097	19,470	12,093	22,856	9,709	68,618	28,220	33.31	34.40
Colonial Airlines	586,117	576,410	11,407	14,968	8,976	11,768	25,766	25,137	34.84	46.82
Eastern Air Lines	626,080	626,236	12,578	13,976	13,508	14,542	31,279	34,882	43.19	41.69
National Airlines	548,868	331,708	50,299	22,335	14,326	6,822	27,082	16,534	52.90	41.26
Northwest Airlines	4,835,628	3,529,829	31,904	23,279	63,649	46,926	114,580	84,025	55.55	55.85
Pan American Airways:										
Atlantic Division	13,260,058	10,883,922	112,480	99,660	273,873	241,102	442,626	364,149	61.87	66.21
Latin American Division	24,277,529	24,012,083	604,005	575,729	501,427	459,316	889,340	885,915	56.38	51.85
Alaska Operations	2,104,547	2,123,126	32,643	30,216	31,753	29,748	62,239	67,837	51.02	43.85
Pacific Operations	12,240,798	12,795,667	72,932	73,143	210,046	221,180	330,326	316,931	63.59	69.79
Pan American-Grace Airways	4,793,657	4,709,723	77,235	77,779	87,792	86,271	165,361	148,044	53.09	58.27
Transcontinental & Western Air	11,801,077	10,606,066	88,036	68,504	248,601	211,893	396,651	372,413	62.67	56.90
United Air Lines	1,995,385	1,560,000	24,113	18,778	57,435	45,088	85,308	62,782	67.33	71.82
Uraba, Medellin & Central Airways	85,340	120,896	2,412	1,894	801	629	1,374	1,954	58.30	32.19
Total	88,420,744	81,142,554	1,298,037	1,156,622	1,769,758	1,577,999	3,046,288	2,743,296	58.10	57.52
Index (1948=100)	108.97	100.00	112.23	100.00	112.15	100.00	111.04	100.00	101.01	100.00

Operator	Ton-miles flown							
	Express		Freight		U. S Mail		Parcel post	
	January–October		January–October		January–October		January–October	
	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	696	0	990,415	1,194,651	105,141	70,777	0	0
American Overseas Airlines	3,051,695	2,153,613	0	0	945,201	1,063,762	282,250	114,669
Braniff Airways	0	0	174,215	23,201	15,242	4,465	0	0
Chicago & Southern Air Lines	0	0	249,756	102,667	10,975	3,049	1,090	42
Colonial Airlines	0	0	46,068	52,294	6,818	7,063	1,121	442
Eastern Air Lines	0	0	350,702	349,048	49,334	33,840	5,952	29
National Airlines	227,168	166,205	0	0	11,205	9,607	0	0
Northwest Airlines	86,437	50,811	3,660,855	1,198,734	1,550,687	1,176,600	0	0
Pan American Airways:								
Atlantic Division	7,035,189	4,358,298	0	0	1,914,015	2,031,757	332,525	121,594
Latin American Division	14,949,312	14,656,653	0	0	2,176,013	2,142,736	8,463	0
Alaska Operations	3,451,069	2,688,927	0	0	351,352	329,406	0	0
Pacific Operations	5,104,699	3,433,036	0	0	4,337,547	3,067,511	0	0
Pan American-Grace Airways	1,279,209	1,281,854	231,842	95,336	261,104	244,905	19,470	0
Transcontinental & Western Air	5,069,714	3,383,146	0	0	2,016,778	1,931,276	377,499	205,010
United Air Lines	250,238	112,442	0	0	582,784	336,802	0	0
Uraba, Medellin & Central Airways	31,370	35,435	0	0	0	0	0	0
Total	40,536,796	32,320,420	5,703,853	3,015,931	14,334,196	12,453,556	1,028,370	441,786
Index (1948=100)	125.42	100.00	189.12	100.00	115.10	100.00	232.78	100.00

International and Overseas: October 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-miles flown			
						Express	Freight	U. S. Mail	Parcel post
American Airlines	190,897	6,945	5,069	9,386	54.01	696	104,982	9,658	0
American Overseas Airlines	663,004	10,772	18,060	28,744	62.83	231,734	0	80,264	26,544
Braniff Airways	173,607	1,210	2,844	8,014	35.49	0	21,950	1,920	0
Chicago & Southern Air Lines	184,928	1,517	1,953	7,609	25.67	0	34,369	1,696	269
Colonial Airlines	56,262	904	713	2,476	28.80	0	805	588	100
Eastern Air Lines	64,480	1,048	1,090	3,132	34.80	0	24,795	6,477	217
National Airlines	54,058	4,607	1,299	2,732	47.55	24,220	0	1,260	0
Northwest Airlines	487,970	2,901	5,689	10,796	52.70	7,979	406,986	152,656	0
Pan American Airways:									
Atlantic Division	1,378,896	11,798	29,972	49,351	60.73	672,791	0	171,508	44,874
Latin American Division	2,343,316	48,222	42,235	85,579	49.35	1,561,544	0	207,012	8,463
Alaska Operations	205,760	3,056	3,032	6,179	49.07	371,259	0	35,021	0
Pacific Operations	1,147,406	6,601	18,870	36,741	51.36	514,861	0	436,693	0
Pan American-Grace Airways	487,309	8,065	8,592	17,795	48.28	154,423	0	23,717	891
Transcontinental & Western Air	1,324,811	9,843	26,602	44,825	59.35	468,598	0	194,883	36,222
United Air Lines	201,600	1,835	4,404	8,686	50.70	37,972	0	51,534	0
Uraba, Madellin & Central Airways	7,968	147	49	143	34.27	1,863	0	0	0
Total	8,972,272	119,471	170,473	322,188	52.91	4,047,940	593,887	1,374,887	117,580

Domestic: Passenger-miles flown (total revenue and non-revenue in thousands)

	January	February	March	April	May	June	July	August	September	October	November	Total
Trunk	436,938	440,903	541,986	585,751	616,776	689,168	650,014	638,356	643,866	621,027	513,948	6,378,733
Feeder	6,714	7,545	9,821	11,529	12,771	14,415	15,619	16,234	15,395	13,694	12,858	136,595
Territorial	4,326	3,709	3,794	4,404	3,987	4,155	4,934	5,029	3,429	3,022	3,210	43,999
Total	447,978	452,157	555,601	601,684	633,534	707,738	670,567	659,619	662,690	637,743	530,016	6,559,327

Scheduled Air Carrier Operations

International and Overseas: January–November 1949, 1948

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)		Revenue passenger load factor (percent)	
	January–November		January–November		January–November		January–November		January–November	
	1949	1948	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	2,026,837	2,147,899	75,946	62,764	60,084	45,084	96,357	83,559	62.36	53.95
American Overseas Airlines	7,130,766	6,823,389	87,040	69,285	169,019	158,806	278,907	258,175	60.60	61.51
Braniff Airways	1,503,879	507,731	11,974	3,248	25,993	5,557	69,351	24,895	37.48	22.32
Chicago & Southern Air Lines	1,631,681	691,924	20,996	13,569	24,655	11,244	75,936	33,161	32.47	33.91
Colonial Airlines	633,842	638,494	12,072	15,812	9,496	12,429	27,866	27,866	34.08	44.60
Eastern Air Lines	688,480	688,636	13,387	14,663	14,349	15,256	34,329	37,959	41.80	40.19
National Airlines	589,658	367,563	53,534	24,122	15,262	7,394	29,091	18,542	52.46	39.88
Northwest Airlines	5,328,247	3,956,193	34,748	25,721	69,238	52,979	125,204	92,924	55.30	57.01
Pan American Airways:										
Atlantic Division	14,505,488	11,854,214	121,206	107,553	295,636	262,679	486,070	393,965	60.82	66.68
Latin American Division	26,595,673	26,461,251	649,857	621,432	538,789	497,303	969,600	974,245	55.57	51.04
Alaska Operations	2,283,057	2,323,745	35,225	32,583	34,379	32,263	67,049	72,580	51.27	44.45
Pacific Operations	13,145,720	14,145,275	78,456	80,510	224,866	244,751	364,593	348,846	61.68	70.16
Pan American-Grace Airways	5,264,947	5,178,826	84,612	84,959	96,042	94,484	182,619	163,657	52.59	57.73
Transcontinental & Western Air	12,693,424	11,592,161	94,655	75,274	266,546	232,396	426,696	406,756	62.47	57.13
United Air Lines	2,197,064	1,708,800	25,552	20,737	60,889	49,789	93,843	69,260	64.88	71.89
Uraba, Medellin & Central Airways	93,308	128,864	2,568	2,036	853	676	1,487	2,092	57.36	32.31
Total	96,312,071	89,214,965	1,401,828	1,254,268	1,906,096	1,723,090	3,328,998	3,008,482	57.26	57.27
Index (1948=100)	107.96	100.00	111.76	100.00	110.62	100.00	110.65	100.00	99.98	100.00

Operator	Ton-miles flown							
	Express		Freight		U. S. Mail		Parcel post	
	January–November		January–November		January–November		January–November	
	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	1,529	0	1,089,694	1,314,465	115,444	77,841	0	0
American Overseas Airlines	3,274,411	2,395,766	0	0	1,026,132	1,261,001	310,128	139,350
Braniff Airways	0	0	207,301	39,059	16,587	5,133	0	0
Chicago & Southern Air Lines	0	0	281,787	128,381	12,793	4,073	1,332	47
Colonial Airlines	0	0	47,608	59,382	7,453	7,808	1,229	546
Eastern Air Lines	0	0	379,855	374,384	55,720	36,971	6,079	121
National Airlines	249,414	184,170	0	0	12,206	10,243	0	0
Northwest Airlines	94,522	57,403	4,121,664	1,527,051	1,728,272	1,353,760	0	0
Pan American Airways:								
Atlantic Division	7,739,840	5,067,820	0	0	2,090,491	2,315,799	385,326	145,861
Latin American Division	16,795,358	16,351,643	0	0	2,388,819	2,342,736	17,556	0
Alaska Operations	3,779,459	3,056,384	0	0	383,860	368,015	0	0
Pacific Operations	5,508,473	4,100,386	0	0	4,750,299	3,468,556	0	0
Pan American-Grace Airways	1,444,539	1,402,616	231,842	134,545	282,103	271,224	21,884	0
Transcontinental & Western Air	5,527,864	3,914,842	0	0	2,192,946	2,155,389	415,747	238,596
United Air Lines	279,994	126,175	0	0	637,253	410,563	0	0
Uraba, Medellin & Central Airways	33,998	37,821	0	0	0	0	0	0
Total	44,729,401	36,695,026	6,359,751	3,577,267	15,700,378	14,089,112	1,159,281	524,521
Index (1948=100)	121.89	100.00	177.78	100.00	111.44	100.00	221.02	100.00

International and Overseas: November 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-Miles flown			
						Express	Freight	U. S. Mail	Parcel post
American Airlines	175,777	6,317	4,628	8,641	53.56	833	99,279	10,303	0
American Overseas Airlines	505,956	9,004	13,047	22,453	58.11	222,716	0	80,931	27,878
Braniff Airways	167,959	1,116	2,706	7,783	34.77	0	33,086	1,345	0
Chicago & Southern Air Lines	177,811	1,526	1,799	7,318	24.58	0	32,031	1,818	242
Colonial Airlines	47,725	665	520	2,100	24.76	0	1,540	635	108
Eastern Air Lines	62,400	809	841	3,050	27.57	0	29,153	6,386	127
National Airlines	40,790	3,235	936	2,009	46.59	22,246	0	1,001	0
Northwest Airlines	492,619	2,844	5,589	10,624	52.61	8,085	460,809	177,585	0
Pan American Airways									
Atlantic Division	1,245,430	8,726	21,763	43,444	50.09	704,651	0	176,476	52,801
Latin American Division	2,318,144	45,852	37,362	80,260	46.55	1,846,046	0	212,806	9,093
Alaska Operations	178,,510	2,582	2,626	4,810	54.59	328,390	0	32,508	0
Pacific Operations	904,922	5,524	14,820	34,267	43.25	403,774	0	412,752	0
Pan American-Grace Airways	471,290	7,377	8,250	17,258	47.80	165,330	0	20,999	2,414
Transcontinental & Western Air	892,347	6,619	17,945	30,054	59.73	458,150	0	176,168	38,248
United Air Lines	201,679	1,439	3,454	8,535	40.47	29,756	0	54,469	0
Uraba, Medellin & Central Airways	7,968	156	52	113	46.02	2,628	0	0	0
Total	7,891,327	103,791	136,338	282,710	48.23	4,192,605	655,898	1,366,182	130,911

CAB Official Actions

(*Continued from page 16*)

the application of Western and United for approval of an agreement relative to the sales of certain properties and the transfer of a certificate (Nov. 2).

E-3526 authorizes Southwest Airways to suspend service at Coalinga, Calif., on segment No. 1 of route No. 76, for 1 year or until the Coalinga Municipal Airport is adequate for safe operation (Nov. 2).

E-3527 approves agreement between United and TWA, relating to porter service (Nov. 2).

E-3528 approves agreement between American and Northwest, relating to termination of agreement between the two parties (Nov. 2).

E-3529 approves agreement between TWA and Air France, relating to between-airport transportation of TWA's air freight (Nov. 3).

E-3530 approves agreement between TWA and Colonial, relating to lease of baggage space at Washington National Airport (Nov. 3).

E-3531 approves agreement between American and Colonial, relating to termination of agreement regarding public address system (Nov. 3).

E-3532 denies motion of American Air Transport and Flight School requesting postponement of oral argument in the matter of certain of its noncertificated operations (Nov. 3).

E-3533 certifies to the Postmaster General that a proposed star route for the transportation of mail from Charlevoix, Mich., to Saint James, Mich., does not conflict with the development of air transportation as contemplated under the Act (Nov. 4).

E-3534 certifies to the Postmaster General that a proposed star route for the transportation of mail from Honolulu, T. H., to Kalaupapa, T. H., does not conflict with the development of air transportation as contemplated under the Act (Nov. 4).

E-3535 orders the examiner to certify to the Board the entire record in the proceedings relative to certain fares, rules, and routings proposed by United, Northwest, and Pan American (Nov. 4).

E-3536 denies petition of United for reconsideration of order serial No. E-3288, which denies its application for an exemption

(*Continued on page 21*)

Promotion of Aviation Discussed by Rentzel

(Continued from page 14)

series of 10 lectures on all aspects of jet operation and certification, getting ready for the time when some manufacturer will present us with many problems all wrapped up in one 500-mile-an-hour jet transport. That is promotion-easing the road for new developments by having Government machinery running smoothly, and by cooperating and collaborating with the industry. And that is, of course, aviation safety work. It aims primarily at the safety of the citizens who will be passengers on these new planes."

Special Divisions of the CAA.—In addition to the work of the operating divisions, Mr. Rentzel pointed out that there were special divisions of the CAA doing much more direct work. He cited the following:

"Our technical development and evaluation center at Indianapolis is a full-time enterprise covering many phases of civil aviation promotion and development. Virtually all of the aids to air navigation now in use came from this center. The industry's problems frequently are laid on the table there, and we work out the solution. Today, for example, we are assisting industry in the development of a fuel tank which will not burst in a crash; on many aspects of the problem of fires in flight; on better and lighter and less expensive radio apparatus for the private flier; and on the brand new problems of fire prevention in jet engines. Out of Indianapolis have come two very important CAA developments, the stall warning indicator, aimed at the major cause of private flying accidents, and the slope line approach light, now the standard for a supplementary aid in instrument landing.

"Last year," Mr. Rentzel continued, "I concentrated the CAA's development and promotion efforts into a new office called the Office of Aviation Development. So far that office is operating on a meager budget, but we have hopes of getting appropriations adequate for a worthwhile program. One of its major projects today is development of a new and better airplane for use in the fast-growing business of spraying, dusting, seeding and fertilizing from the air.

"This again is a good example of the way the CAA works. We have taken $50,000 and assigned it to the Personal Aircraft Division of the Texas A. & M. College system with the specific task of designing an aircraft for this important special purpose. Our CAA safety agents and the operators who have been working in this activity and the Flying Farmers of America are collaborating in general specifications, and when the prototype plane is built it is our intention to turn over to the aviation industry all the information we have gained in its development Meanwhile, in the same place, as part of the same project, the Department of Agriculture will be sponsoring and supervising the development of better distributing devices for dust, spray, seeds and fertilizer."

Important Point About CAA.—In the example cited above, Mr. Rentzel said that there was a very important point to be noted. "The CAA," he continued, "does not build new planes or accessories. It has no authority to do this. It never has done it, and does not intend to do so. We depend entirely upon contracts let to the industry for producing first models, and our theory is that by financing the development costs, we can cut the ultimate cost to the consumer.

"New type very-high-frequency radio equipment for the private flier is a good example of this. We contracted for 10 sets of this equipment at about $2,000 a set. The company turned out a good product and, along with other manufacturers who shared what we learned in the development contract, then went into the business of producing this equipment at around $400 per set.

"Several years ago the Congress appropriated $150,000 for the special purpose of developing castering-wheel landing gear for various types of aircraft. Five contracts were let which called for gear for specific types of planes, and in the end we had tested and demonstrated this important landing-gear development as applied to five different types of aircraft. Today, hundreds of private planes are so equipped, making them safer and more useful for their owners, and two airlines, Capital Airlines, here in the United State, and Trans-Canada are equipping their new planes with castering landing gear."

Mr. Rentzel then said that he obviously could not touch on all of the CAA's efforts at civil-aviation promotion but that he would like to make some closing remarks about an estimate of the CAA's present situation.

CAA's Present Situation.—"Today," Mr. Rentzel said, "we offer great services to those who fly, in our operation of air navigation aids and airports, and in the supervision which the average citizen has a right to expect from his Government in assuring safe design, construction, and operation of the airplane. At home and abroad, CAA men in the field are operating as partners in the industry—we might even call them the 'county agents of aviation.'

"We are proud of our part in the growth of this nation to its position of leadership in things aeronautical. But there are evidences that we should have a better balance between two major parts of the civil aviation industry—commercial air transport and private flying.

"The former is well established as a business. The latter has been suffering violent ups and downs for many years. Just now it is tottering under the withdrawal of GI training from our flying fields and schools. Last year, only 3,500 civil planes were manufactured, as compared with twice that many the previous year and five times that many the year before.

"It is here in the private flying industry that we must exert every effort so that we can gain the greatest volume of business, the greatest number of jobs, and the greatest amount of average-citizen interest. It is this part of the industry that most needs encouragement and fostering."

Mr. Rentzel then stated that he was convinced that if an airplane could be developed that would be more useful to urban dwellers, people who are wedded to the highly useful automobile, that we would see the growth of a big new industry in this country.

"In the hope that greater freedom of action may stimulate the design of airplanes with greater utility," he continued, "we are working out a procedure under which manufacturers of personal aircraft can themselves certify that their planes conform to safety requirements.

"Thus", Mr. Rentzel said in conclusion, "CAA voluntarily will strip itself of another regulatory chore, as part of its constant effort to shift the emphasis of its activities from regulation to development. The extent to which we can do this will serve to measure the maturity of the industry, for when aviation is a big, self-governing activity, it truly will have reached adult stature."

Scheduled Air Carrier Operations

Domestic: November 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent	Ton-miles flown		
						Express	Freight	U. S. Mail
Trunk Lines								
American Airlines	4,634,107	249,471	116,355	194,463	59.83	551,584	3,044,247	715,887
Braniff Airways	952,299	50,867	16,582	31,054	53.40	83,879	126,541	89,461
Capital Airlines	1,774,041	92,692	27,295	63,034	43.30	192,840	699,713	101,203
Chicago & Southern Air Lines	592,102	27,103	8,358	16,318	51.22	46,212	64,306	40,726
Colonial Airlines	303,713	13,155	3,428	6,393	53.62	8,425	7,891	8,866
Continental Air Lines	446,779	14,067	4,962	12,510	39.66	8,415	29,172	15,717
Delta Air Lines	1,053,323	42,451	15,616	31,366	49.79	62,276	177,515	68,159
Eastern Air Lines	4,281,877	174,497	73,444	144,676	50.76	329,425	764,901	403,554
Inland Air Lines	231,506	6,487	2,361	4,556	51.82	5,457	8,153	8,646
Mid-Continent Airlines	688,110	26,900	7,734	14,450	53.52	18,364	30,672	24,375
National Airlines	906,160	22,683	12,628	31,871	39.62	62,211	147,159	36,305
Northeast Airlines	338,367	23,011	4,410	10,698	41.22	17,053	15,785	10,229
Northwest Airlines	1,676,869	56,346	33,470	69,179	48.38	140,082	421,808	221,748
Transcontinental & Western Air	3,470,925	102,969	65,756	112,405	58.50	439,520	1,121,375	641,515
United Air Lines	4,127,318	155,461	89,273	149,495	59.72	616,565	2,112,448	864,202
Western Air Lines	559,156	21,714	8,495	20,538	41.36	38,583	32,090	59,559
Trunk total	26,036,652	1,079,874	490,167	913,006	53.69	2,620,891	8,803,776	3,310,152
Feeder Lines								
All American Airways	237,743	7,227	1,021	4,993	20.45	8,654	0	2,830
Central Airlines (9/15/49)	137,436	346	40	412	9.71	0	0	1,433
Challenger Airlines	98,470	1,920	558	1,969	28.34	2,442	8,160	2,340
Empire Air Lines	85,339	2,489	587	1,792	32.76	1,088	0	1,523
Helicopter Air Service (8/20/49)	21,054	0	0	0	–	0	0	969
Los Angeles Airways	23,948	0	0	0	–	0	0	2,765
Mid-West Airlines (10/21/49)	49,942	155	22	200	11.00	0	0	648
Monarch Air Lines	152,478	2,345	605	2,745	22.04	1,610	6,536	2,096
Piedmont Aviation	288,116	7,900	1,633	6,050	26.99	4,884	6,690	2,611
Pioneer Air Lines	307,702	9,569	2,549	7,386	34.51	3,717	9,574	7,044
Robinson Airlines	85,485	3,755	573	1,627	35.22	1,101	1,226	1,578
Southern Airways (6/10/49)	160,733	2,208	364	3,427	10.62	2,907	0	4,918
Southwest Airways	186,110	7,803	1,457	3,908	37.28	2,626	7,302	3,993
Trans-Texas Airways	275,407	5,876	1,267	5,784	21.91	2,295	3,977	4,965
Turner Airlines (11/5/49)	14,579	239	40	306	13.07	62	0	88
West Coast Airlines	94,365	3,412	482	1,982	24.32	673	0	733
Wiggins, E. W. Airways (9/19/49)	23,475	135	13	94	13.83	0	0	148
Wisconsin-Central Airlines	160,712	2,874	413	1,304	31.67	2,463	0	2,036
Feeder Total	2,403,094	58,253	11,624	43,979	26.43	34,522	43,465	42,718
Territorial Lines								
Caribbean-Atlantic Airlines	44,950	4,255	336	1,045	32.15	0	2,312	563
Hawaiian Airlines	218,928	20,999	2,812	4,815	58.40	9,976	43,769	4,378
Territorial total	263,878	25,254	3,148	5,860	53.72	9,976	46,081	4,941
Grand total	28,703,624	1,163,381	504,939	962,845	52.44	2,665,389	8,893,322	3,357,811

Nearly 1,100 Aircraft Now in Scheduled Use

On January 1, 1950 the scheduled airlines of the United States had in service almost 1,100 aircraft—more than twice the number in service 4 years ago.

At the beginning of the postwar period, United States air carriers were operating just over 500 aircraft. The Douglas DC–3 was the standard model accounting for 87 percent of the total, or 453 planes. At that time, there were only 13 Douglas DC–4's in service.

Two years later, on January 1, 1948, air carrier aircraft in scheduled domestic and international service numbered 971, an increase of 87 percent, or 453 aircraft, over the total on January 1, 1946. The DC–3 increased from 453 to 513, the DC–4 climbed from 13 to 264. In addition, this 2-year period found three new models making their appearance—the Douglas DC–6 with 86, the Lockheed Constellation with 62, and the Martin 202 with 9 planes in service.

In the 2 years just concluded, air-carrier aircraft in service registered another 13 percent increase. There were further gains for the Douglas DC–6, the Lockheed Constellation, and the Martin 202. Two new models were placed in airline service—the Consolidated 240 and the Boeing Stratocruiser. With the addition of this new equipment, some of the older models began to decline. The DC–3's slipped from 513 to 452 (back to their 1946 level); the DC–4 declined from 264 to 233.

The airlines have not only increased the physical number of aircraft operated but the aircraft now in service are considerably faster and larger than the planes which have been retired. An illustration of this trend toward larger models is shown in the figures on average available seats per aircraft:

	Domestic	*International*
1946	25.25	27.21
1948	32.37	35.06
1950	36.45	37.61

Detailed figures showing the number of air carrier aircraft in service over the past few years are as follows:

U. S. Carrier Aircraft in Scheduled Service as of January 1 (Domestic and International Airlines)

Manufacturer and Model	1946	1948	1950
Boeing 247	0	4	0
307, 314	15	5	5
377 Stratocruiser	0	0	41
Consolidated 240 Convair Liner	0	0	113
Douglas DC–3	453	513	452
DC–4	13	264	233
DC–6	0	86	110
Lockheed 10A Electra	3	0	6
18 Lodestar	18	12	11
49, 649, 749 Constellation	0	62	80
Martin 202	0	9	24
Miscellaneous [1]	16	16	21
Total	518	971	1,096

[1] Includes such models as the Stinson SR10, Beech D18, Sikorsky S51 helicopter, Curtiss C–46, Grumman G–21, and Bell 47 helicopter.

CAA Publication Discusses Airport Accounting Problems

"Airport Accounting, Budgeting, and Insurance" is the title of a Civil Aeronautics Administration publication intended to assist airport owners and operators in establishing more efficient methods in the management of airports. The publication is divided into three parts, i. e., accounting, budgeting, and insurance, with applicable charts and designs.

The 36-page booklet is on sale for 15 cents a copy by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Scheduled Air Carrier Operations

Domestic: January–November 1949, 1948

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)	
	January–November		January–November		January–November		January–November	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	51,338,271	50,931,533	3,008,413	2,564,480	1,402,088	1,191,820	2,139,290	1,974,397
Braniff Airways	10,517,693	10,062,673	550,599	518,529	183,011	177,644	345,185	324,942
Capital Airlines	18,793,925	15,995,215	1,109,572	941,433	325,752	251,407	641,141	512,384
Chicago & Southern Air Lines	6,928,165	6,471,986	292,908	257,046	99,988	96,985	185,668	170,943
Colonial Airlines	3,743,982	2,828,459	180,988	132,461	47,309	36,493	78,714	58,988
Continental Air Lines	5,227,157	5,126,291	166,488	147,990	60,440	53,825	145,488	105,610
Delta Air Lines	11,864,848	11,828,618	488,117	443,303	192,324	165,470	346,186	317,184
Eastern Air Lines	48,482,744	44,898,708	2,051,870	1,836,235	917,779	886,427	1,631,493	1,487,226
Inland Air Lines	2,516,558	2,113,187	78,471	67,635	28,984	24,751	49,795	41,633
Mid-Continent Airlines	7,807,034	7,312,185	313,311	287,975	92,187	85,560	163,948	146,349
National Airlines	9,147,350	4,998,742	271,668	144,345	152,970	77,964	340,028	207,041
Northeast Airlines	3,700,049	3,101,473	305,974	253,655	58,323	48,554	118,148	100,734
Northwest Airlines	17,512,458	15,481,898	676,267	573,350	386,617	303,600	672,860	530,277
Transcontinental & Western Air	45,644,563	49,856,173	1,296,359	1,138,006	868,963	780,958	1,418,946	1,337,412
United Air Lines	48,254,825	53,241,300	2,037,635	1,787,648	1,186,436	1,068,970	1,718,907	1,627,749
Western Air Lines	5,746,979	5,778,369	251,208	252,315	95,239	98,324	197,508	178,464
Trunk total	297,226,601	290,026,810	13,079,848	11,346,406	6,098,410	5,348,752	10,193,305	9,121,333
Index (1948=100)	102.48	100.00	115.28	100.00	114.02	100.00	111.75	100.00
Feeder Lines								
All American Airways	2,347,894	1,610,863	67,078	0	9,001	0	40,284	0
Central Airlines (9/15/49)	216,179	–	525	–	63	–	660	–
Challenger Airlines	1,422,883	1,259,616	28,125	19,630	7,757	4,962	28,677	25,480
Empire Air Lines	971,830	913,035	31,382	20,142	6,751	4,341	20,409	17,226
Florida Airways (ceased opr. 3/28/49)	193,120	749,975	3,026	11,365	409	1,532	1,542	5,933
Helicopter Air Service (8/20/49)	48,256	–	0	–	0	–	0	–
Los Angeles Airways	311,246	253,415	0	0	0	0	0	0
Mid-West Airlines (10/21/49)	68,434	–	189	–	26	–	274	–
Monarch Air Lines	1,602,658	1,515,676	28,490	26,083	7,139	6,251	28,848	27,222
Piedmont Aviation	2,769,814	1,413,674	79,077	34,822	16,903	8,197	58,167	29,711
Pioneer Air Lines	3,510,103	3,083,241	96,353	85,302	26,157	22,728	84,503	74,062
Robinson Airlines	819,192	119,805	38,344	5,736	5,753	848	16,071	2,516
Southern Airways (6/10/49)	673,893	–	9,060	–	1,486	–	14,763	–
Southwest Airways	2,205,671	2,157,798	107,416	89,537	19,602	16,313	46,938	47,132
Trans-Texas Airways	2,651,939	1,651,076	45,262	19,321	10,558	4,638	55,702	34,672
Turner Airlines (11/5/49)	14,579	–	239	–	40	–	306	–
West Coast Airlines	1,152,891	1,144,631	62,109	64,220	8,190	8,036	24,211	22,067
Wiggins, E. W., Airways (9/19/49)	43,957	–	292	–	28	–	176	–
Wisconsin-Central Airlines	1,479,493	702,498	30,156	10,180	4,550	1,768	12,410	6,168
Feeder total	22,504,032	16,575,303	627,123	386,438	124,413	79,614	433,941	292,189
Index (1948=100)	135.77	100.00	162.28	100.00	156.27	100.00	148.51	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	544,725	381,010	73,204	67,347	5,446	4,241	13,226	9,609
Hawaiian Airlines	2,621,224	2,948,445	278,541	315,428	38,001	44,218	57,579	64,897
Territorial total	3,165,949	3,329,455	351,745	382,775	43,447	48,459	70,805	74,506
Index (1948=100)	95.09	100.00	91.89	100.00	89.66	100.00	95.03	100.00
Grand total	322,896,582	309,931,568	14,058,716	12,115,619	6,266,270	5,476,825	10,698,051	9,488,028
Index (1948=100)	104.18	100.00	116.04	100.00	114.41	100.00	112.75	100.00

CAB Official Actions

(*Continued from page 19*)

from a restriction preventing certain regularly scheduled nonstop service on route No. 1 (Nov. 4).

E–3537 approves agreement between American Overseas Airlines, Trans-Canada Air Lines, and British Overseas Airways, relating to teleprinter circuits at London, Prestwick, and Shannon (Nov. 8).

E–3538 approves agreement between Northeast and Wisconsin Central, relating to ticketing and reservation services and facilities at Duluth (Nov. 8).

E–3539 approves agreement between Pan American-Grace Airways and Linea Aerea Nacional de Chile, relating to joint meteorological facilities in Santiago, Chile (Nov. 8).

E–3540 terminates suspension of letter of registration No. 1576 issued to Edgar A. Stewart, d. b. a. Stewart Air Service (Nov. 9).

E–3541 approves interlocking relationships existing as a result of the holding of certain positions by J. F. Ross and C. J. Jump in the Railway Express Agency and subsidiary companies (Nov. 9).

E–3542 orders Central Airlines to show cause why the Board should not fix a certain temporary mail rate over its entire system (Nov. 9).

E–3543 orders E. W. Wiggins Airways to show cause why the Board should not fix a certain temporary mail rate over its entire system (Nov. 9).

E–3544 orders Mid-West Airlines to show cause why the Board should not fix a certain temporary mail rate over its entire system (Nov. 9).

E–3545 authorizes Northwest to suspend service to Portland, Oreg., on route No. 95, for 1 year or until the Portland Airport is adequate for use (Nov. 9).

E–3546 authorizes change in service pattern for West Coast Airlines and Challenger Airlines, permitting them to render flag-stop service on their routes Nos. 77 and 74, respectively; grants United leave to intervene (Nov. 10).

E–3547 opinion and order approve agreement between Bonanza Air Lines and TWA for transfer of route No. 38 and certain local service authorizations of route No. 2, subject to certain conditions (Nov. 10).

E–3548 grants Seaboard and Western temporary exemption from the provisions of §§ 401 and 403 of the Act and Part 291.23 of the Economic Regulations, so as to permit free transportation between the United States and Europe to two persons associated with its insurance underwriters (Nov. 10).

E–3549 orders American Overseas Airlines to show cause why the Board should not fix a certain temporary mail rate over its entire system (Nov. 14).

E–3550 orders Pan American Airways to show cause why the Board should not fix a certain temporary mail rate in its trans-Atlantic operations (Nov. 14).

E–3551 orders TWA to show cause why the Board should not fix a certain temporary mail rate in its trans-Atlantic operations (Nov. 14).

E–3552 approves agreement between American and TWA relating to use of equipment (Nov. 14).

E–3553 approves agreement between Pan American and Transocean Air Lines, relating to use of GCA facilities at Gander, Newfoundland (Nov. 14).

E–3554 approves agreement between American Overseas and Trans-Canada Air Lines, relating to personnel, equipment, parts, and supplies for emergency maintenance of TCA's aircraft at Shannon Airport (Nov. 14).

E–3555 approves agreement between United and Western Air Lines, relating to agreement for the purchase of electrical power (Nov. 14).

E–3556 approves agreement between Pan American and Air France, relating to certain radio communications services at Montevideo (Nov. 14).

E–3557 approves agreement between Eastern and Scandinavian Airlines System, relating to reduced rate transportation for employees (Nov. 14).

E–3558 approves agreement between United and Catalina Island Steamship Line, relating to lease of ticket office space at Avalon, Calif. (Nov. 14).

E–3559 approves agreement between Eastern and TWA, relating to joint use of public address system (Nov. 14).

E–3560 approves agreement between Braniff and Continental, relating to establishment of liability in event of claims arising from air-ground radio communication between the parties (Nov. 14).

E–3561 approves agreement between Continental and TWA, relating to provision of complete ground service (Nov. 14).

E–3562 approves agreements between TWA and Indian National Airways, relating to interline passenger agreement (Nov. 14).

(*Continued on page 23*)

Aircraft Industry Due For Continued Gains

(*Continued from page 13*)

imated 215,000 in 1949. There has been a consistent upward trend in aircraft-industry employment since the low point reached in 1947, when employment averaged 195,000, a far cry from peak employment of 1,300,000 reached early in 1944 but considerably higher than that registered in a typical prewar year, such as 1939, when the aircraft industry employed only 65,000 people.

"In terms of dollar value of shipments, the industry ranked first among all U. S. industries in 1944, forty-fourth in 1939, and ranks between fifteenth to twentieth today. The aircraft industry is dependent, to a very large degree, upon military orders. Thus, of 34.6 million airframe pounds estimated to have been delivered in 1949, 81 percent represents military procurement. In terms of 1949 estimated dollar value of aircraft deliveries, 82 percent was military and 18 percent civilian.

"It is estimated that approximately 165 civil transports and 3,400 personal aircraft were produced in 1949. Civil-transport production was approximately 4 million airframe pounds, while personal-aircraft deliveries were about 2.5 million airframe pounds. Both in terms of number of units and in terms of airframe weight, 1949 production of personal planes continued the downward trend that began in 1947. In 1946, 35,000 personal planes were produced. In 1949, the level of personal-plane production was approximately 10 percent of that reached in 1946."

Scheduled Air Carrier Operations

Domestic: January–November 1949, 1948

Operator	Revenue passenger load factor (percent)		Ton-miles flown					
			Express		Freight		U. S. Mail	
	January–November		January–November		January–November		January–November	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	65.54	60.36	4,891,509	4,952,675	28,258,873	19,137,633	7,793,383	6,932,631
Braniff Airways	53.02	54.67	736,719	779,417	1,031,573	1,106,579	950,199	829,669
Capital Airlines	50.81	59.07	1,537,263	1,721,570	6,312,498	4,480,407	936,508	765,615
Chicago & Southern Air Lines	53.85	56.74	485,422	546,277	567,685	485,683	466,245	419,361
Colonial Airlines	60.10	61.87	61,432	47,460	97,668	40,558	87,806	71,256
Continental Air Lines	41.54	50.97	86,840	90,035	338,993	242,565	185,941	156,834
Delta Air Lines	55.56	52.17	627,247	761,609	1,678,930	1,508,558	777,751	789,946
Eastern Air Lines	56.25	59.60	3,088,519	3,345,285	7,487,076	5,016,515	4,313,073	3,834,969
Inland Air Lines	58.21	59.45	58,720	49,760	116,066	72,131	104,931	92,290
Mid-Continent Airlines	56.23	58.46	191,116	173,011	311,083	249,648	279,582	259,906
National Airlines	44.99	37.66	465,794	520,501	1,070,539	620,147	472,450	259,634
Northeast Airlines	49.36	48.20	88,519	86,887	210,639	164,014	81,590	63,307
Northwest Airlines	57.46	57.25	1,470,546	1,542,602	4,056,840	2,173,984	2,201,057	1,897,473
Transcontinental & Western Air	61.24	58.39	4,342,148	5,257,573	10,900,075	8,858,428	7,839,900	7,711,374
United Air Lines	69.02	65.67	5,593,346	6,416,286	21,247,594	17,824,378	9,068,342	7,923,966
Western Air Lines	48.22	55.09	274,018	274,016	373,220	575,765	363,575	404,082
Trunk total	59.83	58.64	23,999,158	26,564,964	84,059,352	62,556,993	35,922,333	32,412,313
Index (1948=100)	102.03	100.00	90.34	100.00	134.37	100.00	110.83	100.00
Feeder Lines								
All American Airways	22.34	–	54,294	30,991	0	0	36,127	36,400
Central Airlines (9/15/49)	9.55	–	0	–	0	–	2,061	–
Challenger Airlines	27.05	19.47	30,158	19,128	70,081	38,098	33,654	28,298
Empire Air Lines	33.08	25.20	13,450	7,665	0	0	18,283	19,072
Florida Airways (ceased opr. (3/28/49)	26.52	25.82	660	3,448	0	0	1,812	6,879
Helicopter Air Service (8/20/49)	–	–	0	–	0	–	2,739	–
Los Angeles Airways	–	–	0	0	0	0	38,118	24,134
Mid-West Airlines (10/21/49)	9.49	–	1	–	0	–	885	–
Monarch Air Lines	24.75	22.96	18,550	14,170	80,231	76,401	23,040	23,617
Piedmont Aviation	29.06	27.59	35,659	16,171	55,870	12,773	27,379	15,861
Pioneer Air Lines	30.95	30.69	28,226	18,666	68,633	34,183	74,270	61,442
Robinson Airlines	35.80	33.70	1,402	0	14,596	3,103	16,032	2,449
Southern Airways (6/10/49)	10.07	–	12,577	–	0	–	13,906	–
Southwest Airways	41.76	34.61	30,674	28,125	81,044	66,860	44,126	39,526
Trans-Texas Airways	18.95	13.38	19,204	8,218	20,495	5,440	53,707	29,858
Turner Airlines (11/5/49)	13.07	–	62	–	0	–	88	–
West Coast Airlines	33.83	36.42	10,905	9,133	0	0	8,689	10,148
Wiggins, E. W., Airways (9/19/49)	15.91	–	0	–	0	–	304	–
Wisconsin-Central Airlines	36.66	28.66	19,628	12,165	0	0	17,938	9,595
Feeder total	28.67	27.25	275,450	167,880	390,950	236,858	413,158	307,279
Index (1948=100)	105.21	100.00	164.08	100.00	165.06	100.00	134.46	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	41.18	44.14	0	0	28,258	8,452	6,858	5,267
Hawaiian Airlines	66.00	68.14	111,437	119,979	525,098	512,994	51,710	36,864
Territorial Total	61.36	65.04	111,437	119,979	553,356	521,446	58,568	42,131
Index (1948=100)	94.34	100.00	92.88	100.00	106.12	100.00	139.01	100.00
Grand total	58.57	57.72	24,386,045	26,852,823	85,003,658	63,315,297	36,394,059	32,761,723
Index (1948=100)	101.47	100.00	90.81	100.00	134.25	100.00	111.09	100.00

Airworthiness Regulations To Be Reviewed by CAB

(*Continued from page 17*)

worthiness requirements. Heretofore the certification of gliders has been accomplished under applicable provisions of Part 3. It appears appropriate now to pose the question whether or not there is sufficient need, because of differences in design requirements and operation limitations between gliders and powered aircraft, to justify the promulgation of a new part of the regulations specifically applicable to gliders.

"Part 6.—The presently effective Part 6 of the Civil Air Regulations dealing with airworthiness of rotorcraft became effective on May 24, 1946. Prior to that time there were no airworthiness regulations which applied specifically to rotorcraft. This part has been found in need of substantive revision due to rapid advances in the rotorcraft industry in recent years. As a result, Draft Release No. 49–4 was published on October 1, 1949, and contains a proposed Part 6b.

"Draft Release No. 49–4 requested comments from all interested parties by January 1, 1950. At the time of issuance of the release, however, the Board had not adopted the policy of annually reviewing all airworthiness regulations, this policy having been adopted by the Board on October 6, 1949. In view of this latter development, it is believed advisable to reconsider proposed Part 6b in this annual review.

"Part 9.—Part 9 of the Civil Air Regulations deals with airworthiness of aircraft in the limited category. The purpose of this part was to make available to the public certain military surplus aircraft which were originally designed for the Armed Services, and which experience in the military service had shown to be safe for operation so long as the operation is confined to flights in which neither passengers nor cargo are carried for hire.

"Under this part of the regulations the authority to issue limited type certificates expired on December 31, 1947, and the authority to issue limited airworthiness certificates expired on August 31, 1948.

"Part 13.—The presently effective Part 13 of the Civil Air Regulations dealing with airworthiness of aircraft engines became effective on August 1, 1941, and has remained unchanged to date. Two distinct problems present themselves with respect to this part of the regulations.

"In view of the length of time since this part has been promulgated, and because of the advances made in the design of reciprocating aircraft engines, it seems reasonable to assume that a reevaluation of this part is necessary. It may be advisable in the reevaluation of this part to consider the ICAO standards for reciprocating aircraft engines recently adopted within the framework of Annex 8.

"Aside from any changes necessary in regard to the airworthiness of reciprocating engines, the question arises as to the appropriate airworthiness rules for turbine-type engines.

"Part 14.—The presently effective Part 14 of the Civil Air Regulations pertaining to airworthiness of aircraft propellers was issued on May 31, 1938, and to date has been amended only in minor details.

"It appears that there may be some reason for considering amendments to this part of the regulations, particularly in view of the various new features which propellers of more recent design have incorporated, e. g. automatic feathering, reverse thrust, etc.

"Part 15.—The presently effective Part 15 of the Civil Air Regulations pertaining to airworthiness of aircraft equipment was adopted on May 31, 1938, and has been amended from time to time.

"It is anticipated that, with the introduction of the Technical Standard Order system for the approval of materials, parts, and processes, there will eventually be no need for this part of the regulations. The deletion of specific regulations from Part 15 with respect to safety belts, which the Board effected December 29, 1949, is the first major step toward this end. Unless it is found undesirable to treat the rest of the substance in Part 15 in a similar manner, it is expected that other parts of Part 15 will be progressively repealed.

"Part 16.—The presently effective Part 16 of the Civil Air Regulations dealing with airworthiness of aircraft radio equipment was adopted on December 13, 1940, and has remained unchanged to date.

"Eventually it may be found advisable to treat radio equipment in a manner similar to that pertaining to Part 15 of the regulations, that is, to process the approval of radio equipment under the TSO system."

Regulations of The Administrator

(Through January 30, 1950)

NOTE: All Regulations of the Administrator in effect on June 30, 1949, were published in the Federal Register, part II, section 2, July 16, 1949, which is on sale at 20 cents a copy by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C. Dates on which all amendments issued subsequent to June 30, 1949, were published in the Federal Register are given in parentheses. Copies of amendments may be obtained free of charge from the Office of Aviation Information, CAA, Washington 25, D. C. Parts marked with an asterisk (*) may be obtained separately from the Superintendent of Documents at the indicated prices. Remit check or money order, made payable to the Superintendent of Documents, directly to the Government Printing Office, Washington 25, D. C.

Part 405—Procedure of the Civil Aeronautics Administration.
*Part 406—Rules of Practice Governing Procedings to Alter, Amend, or Modify Certificates. (5¢.)
*Part 407—Seizure of Aircraft. (5¢.)
*Part 450—Inter-American Aviation Training Grants. (5¢.)
*Part 501—Aircraft Registration Certificates. (5¢.)
*Part 502—Dealers' Aircraft Registration Certificates. (5¢.)
*Part 503—Recordation of Aircraft Ownership. (5¢.)
*Part 504—Recordation of Encumbrances Against Specifically Identified Aircraft Engines. (5¢.)
*Part 505—Recordation of Encumbrances Against Aircraft Engines, Propellers, Appliances, or Spare Parts. (5¢.)
*Part 550—Federal Aid to Public Agencies for Development of Public Airports. (10¢.)
Amendment 1. (Aug. 11, 1949.)
Amendment 2. (Sept. 1, 1949.)
Amendment 3. (Nov. 18, 1949.)
Amendment 4. (Jan. 18, 1950.)
*Part 555—Acquisition of Government-owned Lands for Public Airport Purposes. (5¢.)
*Part 560—Reimbursement for Damage to Public Airports by Federal Agencies. (10¢.)
Amendment 1. (Nov. 16, 1949.)
*Part 570—Rules of Washington National Airport. (5¢.)
Amendment 1. (Nov. 26, 1949.)
*Part 600—Designation of Civil Airways (including amendments 1 through 18). (10¢.)
Amendment 19. (July 28, 1949.)
Amendment 20. (Sept. 30, 1949.)
Amendment 21. (Oct. 15, 1949.)
Amendment 22. (Nov. 18, 1949.)
Amendment 23. (Dec. 2, 1949.)
Amendment 24. (Jan. 7, 1950.)
Amendment 25. (Jan. 14, 1950.)
*Part 601—Designation of Control Areas, Control Zones, and Reporting Points (including amendments 1 through 22). (15¢.)
Correction. (Nov. 17, 1949.)
Amendment 23. (July 28, 1949.)
Amendment 24. (Sept. 30, 1949.)
Amendment 25. (Oct. 15, 1949.)
Amendment 26. (Nov. 18, 1949.)
Amendment 27. (Dec. 2, 1949.)
Amendment 28. (Jan. 7, 1950.)
Amendment 29. (Jan. 14, 1950.)
Part 625—Notice of Construction or Alteration.
Part 635—Reproduction and Dissemination of Current Examination Materials.

November Engine Shipments Below October's Figure

The civil aircraft engine industry's shipments for November 1949 were valued at $3,261,000 according to a report issued jointly by the Civil Aeronautics Administration and the Bureau of the Census. Dollar value was distributed as follows: $964,000 for complete engines, $1,942,000 for spare parts—or more than double the complete engine total—and $355,000 for other products and services.

November shipments included 192 engines compared with 174 a month earlier and 188 a year ago.

Detailed information on November civil aircraft engine shipments shows:

Civil Aircraft Engine Shipments, November 1949

	1949		1948
	November	October	November
Number (total)	192	174	188
Horsepower output (thousand hp)	82.0	78.4	88.4
Value (thousand dollars)	$3,261	$3,456	$3,319
Complete engines	964	1,051	1,170
Parts	1,942	1,976	2,036
Other products	355	429	113

Air Regulations . on February 1, 1950

Title	No.	Part: Price	Part: Date	Part: No. of Amendments	Manual: Price	Manual: Date	Manual: No. of Supplements
Aircraft							
Airworthiness Certificates	1	$0.05	5/10/49	.....	None	None	.....
Type and Production Certificates	2	.05	8/1/49	[9] 1	$0.10	8/1/46	.....
Airplane Airworthiness; Normal, Utility, Acrobatic, and Restricted Purpose Categories	[1] 3	.15	11/1/49	[9] 2	None	None	3
Airplane Airworthiness	4a	.....	.....	[9] 3	.75	7/1/44	4
Airplane Airworthiness; Transport Categories	[1] 4b	.20	10/1/49	[9] 2	None	None	1
Rotorcraft Airworthiness	6	.....	.....	[9] 2	None	None	.....
Aircraft Airworthiness; Limited Category	9	.05	11/1/49	.....	None	None	.....
Aircraft Engine Airworthiness	13	.05	8/1/49	[9] 1	None	None	.....
Aircraft Propeller Airworthiness	14	.05	11/1/49	[9] 1	.15	5/1/46	.....
Aircraft Equipment Airworthiness	15	.05	11/1/49	[9] 2	No stock	7/1/38	.....
Aircraft Radio Equipment Airworthiness	16	.05	2/13/41	.....	No stock	2/13/41	.....
Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments	18	.05	8/15/49	.....	.60	6/1/43	.....
Airmen							
Pilot Certificates	20	.05	8/1/49	2	None	None	.....
Airline Transport Pilot Rating	21	.05	8/15/49	1	None	None	.....
Lighter-than-air Pilot Certificates	22	.05	11/1/49	.....	None	None	.....
Mechanic Certificates	24	.05	9/1/49	[2]	None	None	.....
Parachute Technician Certificates	25	.05	11/1/49	.....	None	None	.....
Air-traffic Control-tower Operator Certificates	26	.05	11/1/49	.....	None	None	1
Aircraft Dispatcher Certificates	27	.05	11/1/49	.....	None	None	1
Physical Standards for Airmen	29	.05	10/1/49	1	None	None	.....
Flight Radio Operator Certificates	33	.05	11/1/49	.....	None	None	1
Flight Navigator Certificates	34	.05	11/1/49	.....	None	None	.....
Flight Engineer Certificates	35	.05	11/1/49	.....	None	None	1
Operation Rules							
Air Carrier Operating Certificatuon	40	.05	9/1/49	[3]	None	None	1
Certification and Operation Rules for Scheduled Air Carrier Operations Outside the Continental Limits of the United States	41	.05	11/15/49	1	None	None	4
Irregular Air Carrier and Off-Route Rules	42	.10	6/1/49	[4] 3	$1.00	9/1/49	.....
General Operation Rules	43	.05	8/1/49	1	None	None	3
Foreign Air Carrier Regulations	44	.05	9/1/49	.....	None	None	.....
Commercial Operator Certification and Operation Rules	45	.05	11/15/49	[5] 1	None	None	.....
Operation of Moored Balloons	48	.05	9/1/49	.....	None	None	.....
Transportation of Explosives and Other Dangerous Articles	49	.10	7/20/49	.....	None	None	.....
Air Agencies							
Airmen Agency Certificates	50	.05	10/1/49	[6] 2	.15	5/15/46	6
Ground Instructor Rating	51	.05	10/10/49	.....	None	None	1
Repair Station Rating	52	.05	10/15/49	.....	No stock	2/41	1
Mechanic School Rating	53	.05	10/15/49	.....	Free	5/40	.....
Parachute Loft Certificates and Ratings	54	.05	10/15/49	.....	.15	7/1/48	.....
Air Navigation							
Air Traffic Rules	60	.10	8/1/49	.....	[7] 1.00	8/1/49	.....
Scheduled Air Carrier Rules	61	.10	9/1/49	[8] 1	None	None	4
Notice and Reports of Aircraft Accidents and Missing Aircraft	62	.05	5/1/49	.....	None	None	.....
Miscellaneous							
Rules of Practice Governing Suspension and Revocation Proceedings	97	.....	.....	.....	None	None	.....

[1] Certain aircraft may comply with the provisions of this part or part 4a.
[2] Special regulation SR-340.
[3] Special regulations SR-333, SR-335. SR-341
[4] Special regulations SR-334, SR-337.
[5] Special regulation SR-337.
[6] Special regulation SR-336.
[7] Combined with Flight Information Manual, Vol. 4, No. 1.
[8] Special regulations SR-334, SR-341.
[9] Special regulation SR-339 extends effective dates of Amendments 2-1, 3-1, 4a-3, 4b-1, 6-3, 13-1, 14-1, and 15-1, requiring the installation of fireproof identification plates until March 7 1950.

NOTE: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk. Amendments, Special Regulations and free Parts are obtained from the Publications Section, Civil Aeronautics Board, Washington 25, D. C.; Supplements and free Manuals from the CAA Office of Aviation Information, Dept. of Commerce, Washington 25, D. C.

CAB Official Actions

(Continued from page 21)

E-3563 amends order serial No. E-2260, so as to extend the temporary exemption granted to Los Angeles Airways, permitting the carrier to engage in air transportation of mail and property to and from San Bernardino, Calif., on route No. 84 with rotary-wing aircraft (Nov. 15).

E-3564 approves agreement between TWA and Piedmont Aviation, relating to ground, preflight, and ticketing services (Nov. 15).

E-3565 approves agreement between United and TWA relating to equipment and services (Nov. 15).

E-3566 approves agreement between British Overseas Airways Corp. and Pennsylania-Central Airlines Corp., relating to interline traffic agreement (Nov. 15).

E-3567 approves agreement between Hawaiian Airlines and Matson Navigation Co., relating to sales agency arrangements (Nov. 15).

E-3568 approves agreement between American and Delta, relating to joint advertising (Nov. 15).

E-3569 approves agreement between Hawaiian Airlines and Inter-Island Steam Navigation Co., relating to personnel services (Nov. 15).

E-3570 approves agreement between American Airlines and Air France, relating to ground services (Nov. 15).

E-3571 severs certain portions of applications of West Coast Airlines, consolidates certain portions into one proceeding, and institutes a proceeding to determine whether certain service on United's route No. 1 should be suspended (Nov. 15).

E-3572 amends order serial No. E-3241, dated September 2, 1949, so as to extend the date of hearing from 30 days to 90 days in the matter of the disapproval of an agreement between Pan American-Grace Airways and other carriers, relating to operations within the Republic of Peru (Nov. 15).

E-3573 orders National Travel Club to show cause why it should not be ordered to cease and desist from engaging in air transportation in violation of § 401 (a) of the Act (Nov. 16).

E-3574 orders that the record be reopened in the matter of the mail rates of Pan American-Grace Airways over its entire system, for the purpose of receiving evidence with respect to the issues raised by the petition of the Postmaster General (Nov. 16).

E-3575 grants Mid-West Airlines permission to serve certain points on route No. 90, through the use of certain airports (Nov. 16).

E-3576 approves interlocking relationships existing as a result of the holding of certain positions by Wilbur L. Morrison in Pan American Airways and Pan American-Grace Airways (Nov. 16).

E-3577 extends the date of investigation and suspension to February 22, 1950, in the matter of certain fares, rules, and routings proposed by Pan American Airways (Nov. 16).

E-3578 authorizes temporary suspension of service by Caribbean-Atlantic Airlines on segment 2 of route No. 59 until such time as an adequate airport is available at Ponce, P. R. (Nov. 17).

CAB Policy Covers Use of Small Planes By Scheduled Lines

The Civil Aeronautics Board on January 20, issued the following statement of policy relative to the use of single-engine or small twin-engine equipment in scheduled airline operations.

"Early in the summer of 1949 the Board issued a Statement and a proposed Safety Regulation to the effect that certain carriers which had been certificated to provide local and feeder service would be permitted, under certain circumstances, to operate their routes with single-engine equipment. The Administrator of Civil Aeronautics subsequently issued a manual for the technical and operational guidance and information of those carriers who proposed single-engine operations. Three carriers—Central, Midwest, and Wiggins—are now actually in operation with single-engine or small twin-engine equipment. The Board has today advised Turner Airlines that it is lifting certain stay orders to permit Turner to activate portions of its routes with single-engine equipment. Service over these segments with larger equipment is not feasible at the present time because of airport conditions at the intermediate points. The segments over which such single-engine service will be offered are Indianapolis-Lafayette-Chicago, Indianapolis-Connersville-Cincinnati and Indianapolis-Bloomington-Louisville. The Turner route between Indianapolis and Grand Rapids is currently being operated by the carrier with DC–3 equipment.

"The Board's purpose in issuing its policy statement in June which permitted operation of feeder and local services with single-engine equipment was in part to provide service to certain certificated communities which might otherwise not be possible because of limited airport facilities, and in part to test, and provide an experiment for, the use of small or single-engine equipment in this type of operation.

"The three carriers which are now in operation, plus the operations which Turner contemplates, should be sufficient for the purposes of this experiment.

"Accordingly, we believe that at least until further results of the experiments being and about to be conducted can be appraised, no more carriers should make plans for inauguration of service over their routes with single-engine or very small twin-engine equipment without prior consultation with the Board."

Fourth Airport Report Made Public by CAA

The fourth annual report of the Federal Airport Act, prepared annually by the CAA for submission to the Congress, was made public last month by D. W. Rentzel, Administrator of Civil Aeronautics.

The report covers all phases of work accomplished under the Federal Airport Program through the fiscal year ending June 30, 1949.

It lists total Federal expenditures for airport construction and development as being $35,500,000 of which $20,404,923 was for 345 completed projects. Grant agreements, where local sponsors have accepted grant offers for Federal aid on specific projects, numbered 765 for $78,266,664 in Federal funds for work on 630 airports. The $78,266,664 figure represents approximately 76 percent of the $103,774,079 in Federal funds which has been allocated.

The report lists all projects for airport development in the Federal Aid Airport Program, by States.

Copies of the Fourth Annual Report of the Federal Airport Act may be obtained from the CAA Office of Aviation Information, Washington 25, D. C.

Number of Women in Aviation Shows Marked Gain

A marked increase in the number of women holding pilot, instructor air-traffic-control operator, and other airmen ratings is indicated by the first such inventory conducted by the Civil Aeronautics Administration in nearly 4 years. The latest tally, made as of May 1, 1949, shows that there were 9,678 women pilots of whom 8,115 held private pilot certificates, 1,561 held commercial ratings, and 2 had air-line transport pilot ratings. The previous count as of July 1, 1945, showed only 5,122 women holding pilot certificates, of whom 4,166 held private licenses and 956 held commercial ratings.

The largest number of women pilots was to be found in California with 1,154. Texas had the next largest number, 473.

Other airmen ratings held by women included 1,811 air-traffic-control operators, 1,221 ground instructors, 400 parachute technicians, 47 mechanics, 16 glider pilots, and 4 dispatchers. It is interesting to note that women hold approximately 20 percent of all the air-traffic-control operator and parachute technician certificates now on record with the CAA.

The detailed data by States are as follows:

State	Certificated pilots				Mechanics	Air traffic control operators	Parachute technicians	Dispatchers	Glider pilots	Ground instructors
	Private	Commercial	Airline transport	Total						
Alabama	50	8	0	58	0	24	14	0	0	11
Arizona	123	22	0	145	0	24	11	0	0	14
Arkansas	77	11	0	88	0	7	3	0	0	8
California	1,154	257	0	1,411	8	252	54	3	3	123
Colorado	177	25	0	202	1	21	9	0	1	39
Connecticut	108	30	0	138	0	25	3	0	0	9
Delaware	20	2	0	22	0	2	0	0	0	2
Dist. of Columbia	73	21	0	94	0	15	0	0	0	13
Florida	268	70	0	338	4	43	20	0	1	94
Georgia	94	16	0	110	0	117	3	0	0	9
Idaho	84	8	0	92	0	13	1	0	0	11
Illinois	472	76	0	548	2	117	4	0	0	68
Indiana	207	44	0	251	0	35	5	0	1	25
Iowa	181	24	0	205	0	44	2	0	0	20
Kansas	160	32	0	192	4	33	6	0	0	23
Kentucky	64	19	0	83	0	14	3	0	0	8
Louisiana	75	17	0	92	0	10	2	0	0	11
Maine	34	8	0	42	0	3	6	0	0	6
Maryland	71	19	0	90	0	10	0	0	0	15
Massachusetts	195	27	0	222	0	44	3	0	0	35
Michigan	400	72	0	472	3	46	3	0	0	33
Minnesota	133	19	0	152	1	53	7	0	0	11
Mississippi	46	5	0	51	0	4	14	0	0	8
Missouri	222	29	0	251	1	66	8	0	2	35
Montana	56	12	0	68	0	26	3	0	0	10
Nebraska	85	15	0	100	0	12	1	0	0	10
Nevada	43	6	0	49	0	4	7	0	0	9
New Hampshire	38	6	0	44	0	3	0	0	0	5
New Jersey	179	40	1	220	1	44	8	0	1	37
New Mexico	50	16	0	66	0	8	16	0	0	10
New York	523	143	0	666	10	101	6	0	5	99
North Carolina	90	13	0	103	0	26	2	0	0	13
North Dakota	39	3	0	42	0	8	1	0	0	1
Ohio	384	63	1	448	0	83	7	0	0	43
Oklahoma	192	32	0	224	0	14	16	0	0	42
Oregon	161	22	0	183	0	26	10	0	0	10
Pennsylvania	370	71	0	441	1	75	5	0	1	61
Rhode Island	25	7	0	32	0	4	15	0	0	5
South Carolina	40	11	0	51	0	17	4	0	0	10
South Dakota	32	4	0	36	0	7	1	0	0	14
Tennessee	88	19	0	107	1	32	7	0	0	22
Texas	473	106	0	579	2	135	96	1	0	112
Utah	61	13	0	74	1	17	2	0	0	4
Vermont	16	1	0	17	0	5	1	0	0	4
Virginia	78	6	0	84	1	6	0	0	0	3
Washington	256	35	0	291	3	62	3	0	0	17
West Virginia	60	11	0	71	0	9	1	0	0	8
Wisconsin	187	25	0	212	1	45	4	0	1	27
Wyoming	44	3	0	47	1	10	2	0	0	3
Outside continental U. S.	57	17	0	74	1	10	1	0	0	11
TOTAL	8,115	1,561	2	9,678	47	1,811	400	4	16	1,221

CAB Authorizes Continental To Serve Additional Points

By amending the certificate of Continental Air Lines, Inc., over Route No. 29, the Civil Aeronautics Board recently authorized Continental to serve Socorro, Hot Springs, and Las Cruces, N. Mex., as intermediate points between Albuquerque, N. Mex., and El Paso, Tex. The Board also amended Continental's certificate so the carrier could serve Raton, N. Mex., as an intermediate point between Trinidad, Colorado, and Las Vegas, N. Mex. Both authorizations were to be effective for a period of 3 years, the Board said.

Continental will serve the newly authorized points on two daily round trip schedules using DC–3 equipment.

The Board deferred action at this time on the application of Arizona Airways for a route from Douglas, Arizona, to Lordsburg, N. Mex., and denied all other applications for service to New Mexico intermediate points.

Proposed UAL Tariffs Are Suspended by CAB

Suspension of tariffs proposed by United Airlines providing for reduced fares on certain designated flights, effective January 16, 1950, has been announced by the Civil Aeronautics Board. The designated flights are between Chicago, Ill., Omaha, Nebr., Denver, Colo., Salt Lake City, Utah, Boise, Idaho, Portland, Oreg., and Seattle, Wash.; and between Los Angeles, and San Francisco, Calif., Portland, Oreg., and Seattle, Wash.

The Board said that United's proposed reduced tariffs did not conform to the Board's policy covering institution of air coach fares.

Therefore, the Board suspended United's proposed fares for a period of 90 days from January 16, 1950, to April 15, 1950, and at the same time ordered an investigation to determine whether the fares, rules, and regulations contained in the tariff will be unjust or unreasonable.

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